HMS CAROLINE

THE NATIONAL MUSEUM ROYAL NAVY

VITAL STATISTICS

Class:	C-class light cruiser
Length:	446 feet (135.94m)
Beam:	41 feet 6 inches (12.65m)
Weight:	3,750 tons (design displacement)
Speed:	30 knots (55.5km/h)
Propulsion:	4 x Parsons Direct Drive Turbines
	2 x Parsons Cruising Turbines
	8 x oil-fuelled Yarrow boilers
Crew:	289 (361 maximum in 1920)
Armament:	2 x 6-inch (152mm) guns (later 4)
	8 x 4-inch (102mm) guns (later 4)
	1 x 6-pounder (57mm) anti-aircraft gun (later 2 x 3-inch, or 76.2mm)
	2 x 21-inch (533mm) twin torpedo tubes
Armour:	Belt 1 to 3 inches (25mm–76mm)
	Deck 1 inch (25mm)
Battle Honours:	Jutland 1916

INTRODUCTION

HMS *Caroline* is an extraordinary and unique survivor.

A light cruiser, she is one of only three major warships remaining from hundreds that served with the Royal Navy during the First World War, and the last survivor of the Battle of Jutland, arguably the greatest naval battle in history.

After the First World War she 'showed the flag' around the Indian Ocean before permanently berthing in Belfast as home to the Royal Naval Reserve's Ulster Division. During the Second World War she was 'name ship' for Belfast Naval Base, acting as a codebreaking centre and a floating headquarters for North Atlantic convoy escort ships. When decommissioned in 2011, she was the Royal Navy's second longest-serving warship, after Nelson's flagship HMS *Victory*.

Part of the National Museum of the Royal Navy (NMRN) since November 2013, *Caroline* is almost unchanged from the day she was built, and is part of the United Kingdom's National Historic Fleet. Thanks to the support of the National Heritage Memorial Fund, the Heritage Lottery Fund and Northern Ireland's Department of Enterprise, Trade and Investment, NMRN is delighted to present her to visitors, offering an extraordinary opportunity to experience how generations of sailors lived, worked and fought for nearly a hundred years.

A postcard depicting HMS *Caroline* in the First World War.

WHAT IS A CRUISER?

In the age of the sailing navy, small ships like sloops and frigates were known as 'cruising vessels'. They often operated independently from the fleet, watching enemy ports and scouting, carrying mail or orders, transporting supplies, harassing enemy merchant ships, and landing raiding parties.

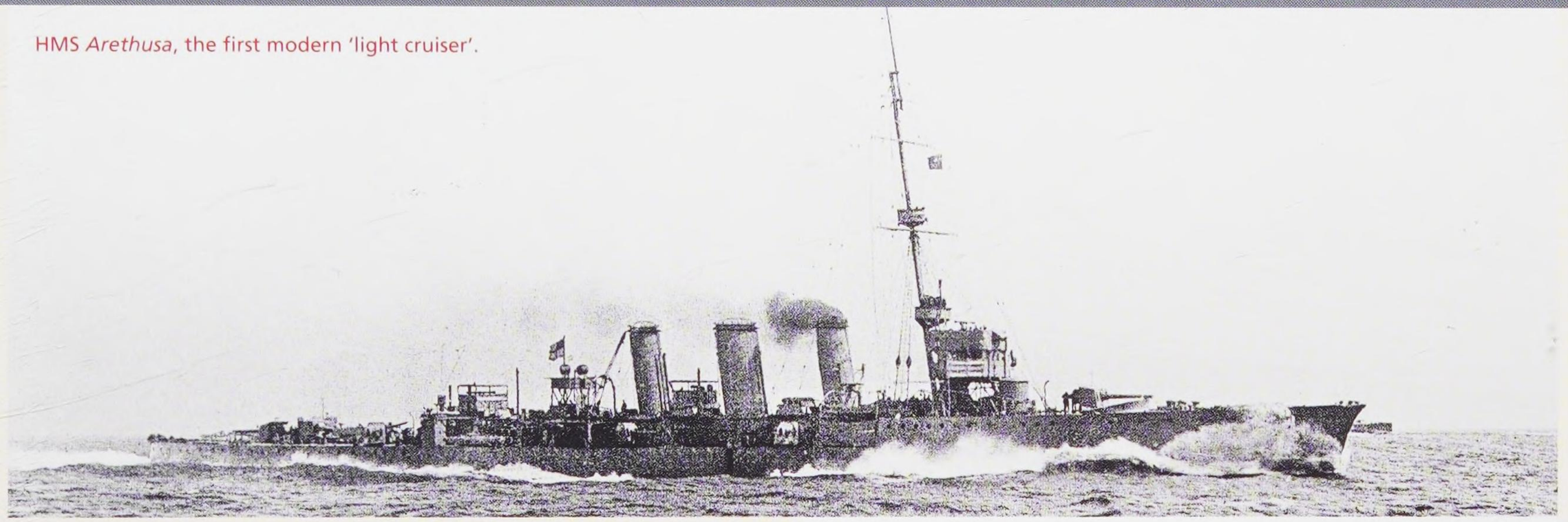
HMS *Crescent*, a typical small 'protected cruiser', built in 1890.

HMS *Monmouth*, an older 'armoured cruiser' built in 1901 and sunk in the Battle of Coronel on 1 November 1914.

The technological advances of the 19th century changed the nature of these versatile ships, although many of their jobs remained the same. Wooden sailing ships with broadside batteries of muzzle-loading cannon became steel, steam-powered ships with rifled, breech-loading guns mounted in turrets, and the old ship types merged into one – the 'cruiser' – which then subdivided in turn into a confusing list of sub-types. 'Armoured cruisers' had a thick steel armoured belt around the side to protect their ammunition and engines. They worked with the fleet and could defeat anything faster or outrun anything better armed.

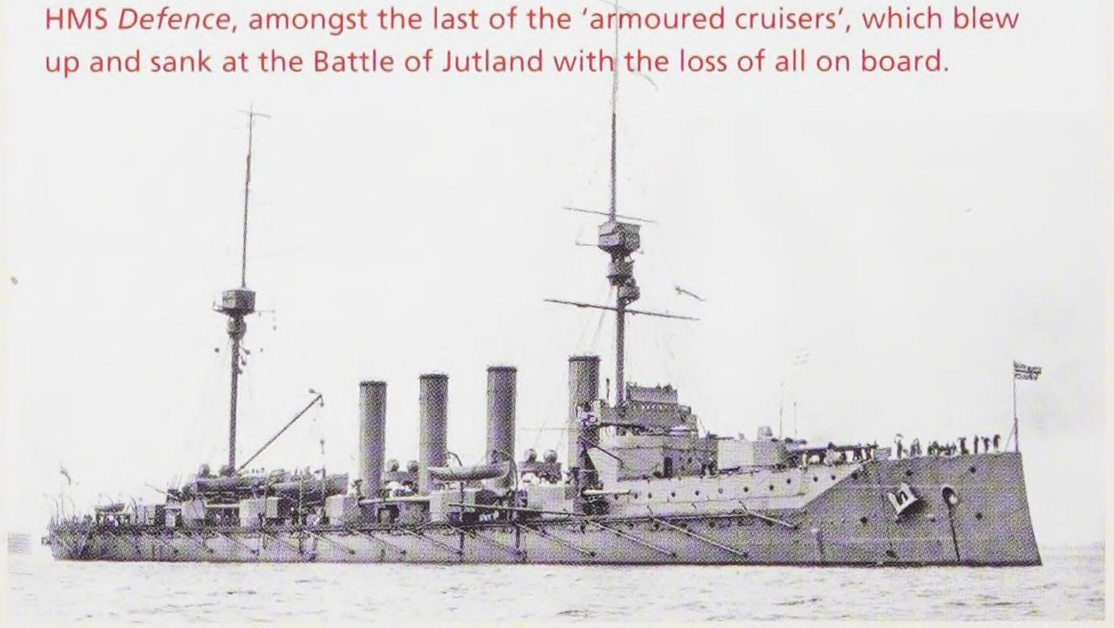
The misleadingly named 'protected cruisers' were older ships designed for long periods away from base rather than fighting power, and the only protection they had was some limited deck armour. Bewilderingly, there were 1st-, 2nd- and 3rd-class protected cruisers, as well as even smaller 'scout' cruisers.

LIGHT CRUISERS



HMS *Arethusa*, the first modern 'light cruiser'.

By 1914, advances in weaponry, turbine engines and armour plate had allowed most countries to develop a new class of 'light cruiser', with both an armoured belt and high speed. The first ships were named after British regional towns, to encourage support for naval building.



HMS *Defence*, amongst the last of the 'armoured cruisers', which blew up and sank at the Battle of Jutland with the loss of all on board.

After 1910, the British realised that the likely enemy – the Imperial German Navy – would probably use small, fast torpedo craft to support their battle fleet. The Royal Navy's light cruisers were now designed to protect the fleet against this new threat whilst defending the Royal Navy's own torpedo craft. The Arethusa-class were the first ships designed for this role, and the first true, modern light cruisers.

The C-class, of which HMS *Caroline* is one, evolved from this initial design.

In 1914 the Royal Navy had 119 cruisers of various types, with 40 more planned or under construction, including 18 of the new light cruisers. HMS *Caroline* is the last survivor of this huge cruiser force, which was bigger than today's combined British and German fleets.

DESIGNING HMS *CAROLINE*

Like every ship, *Caroline* was a compromise between speed, armour protection and guns.

There were two proposals for arming the 28 new C-class light cruisers: one for mixed 6-inch and 4-inch guns; the other for all 6-inch guns. Mixed armament was less efficient because two different types of ammunition had to be stored, but 6-inch guns were better for dealing with Germany's larger torpedo craft.

In the end, the new ships carried eight 4-inch quick-firing guns forward and two 6-inch guns aft. The design also included twin 21-inch torpedo deck tubes, one set on each side. The C-class had a longer forecastle than the Arethusas, to make the ships drier, improved armour, and their oil tanks were moved below the waterline. These developments increased their displacement (weight) by some 200 tons, which made the ships better gun platforms but meant they tended to roll. *Caroline* cost nearly £397,000 to build, around £290 million today.

The C-class had to be able to reach the high speed of 30 knots, which required 40,000 shaft horsepower, provided by eight boilers and six turbines driving four propeller shafts.

Top left: Laying the keel of *Caroline*'s identical sister, HMS *Cleopatra*, at Devonport Dockyard, February 1914.

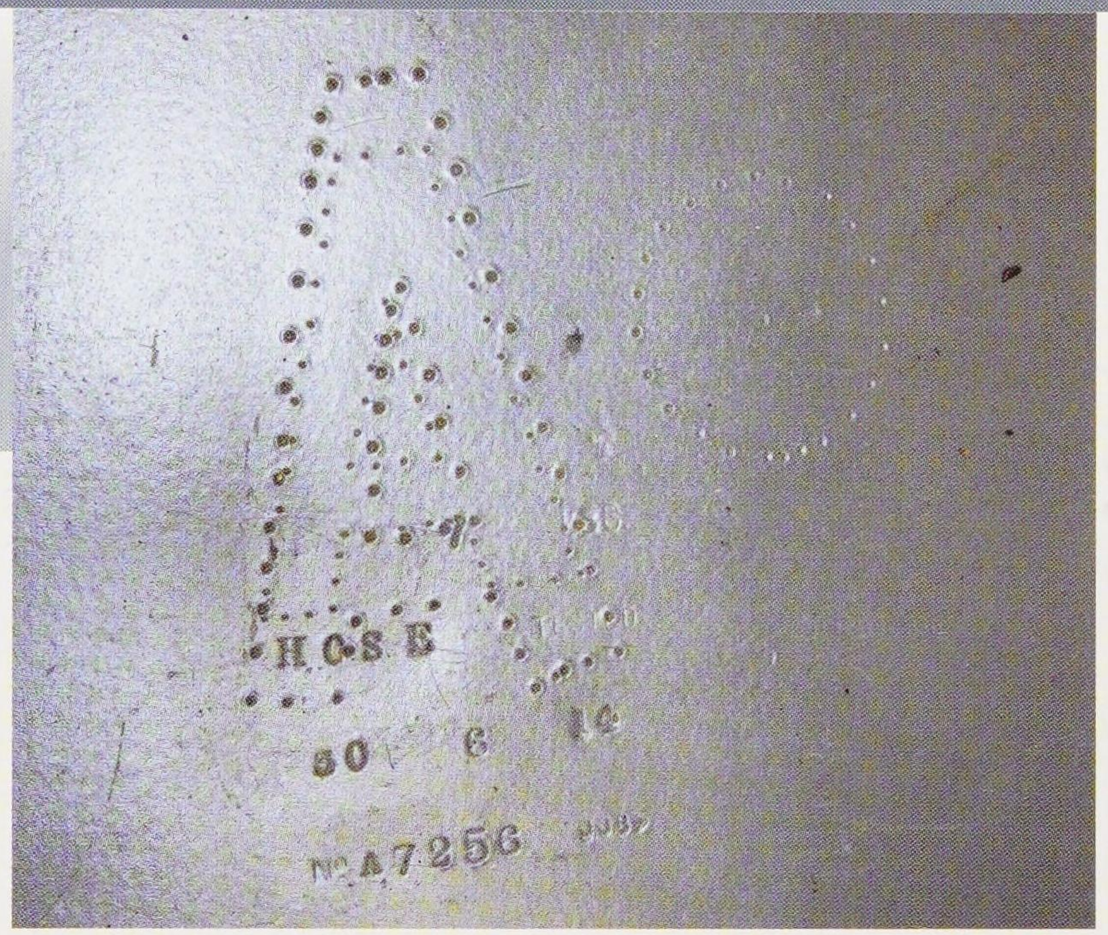
Bottom left: A cross-section of riveted steel hammered into place whilst red-hot. As the rivets cooled they contracted, pulling the steel plates tightly together.

BUILDING HMS *CAROLINE*

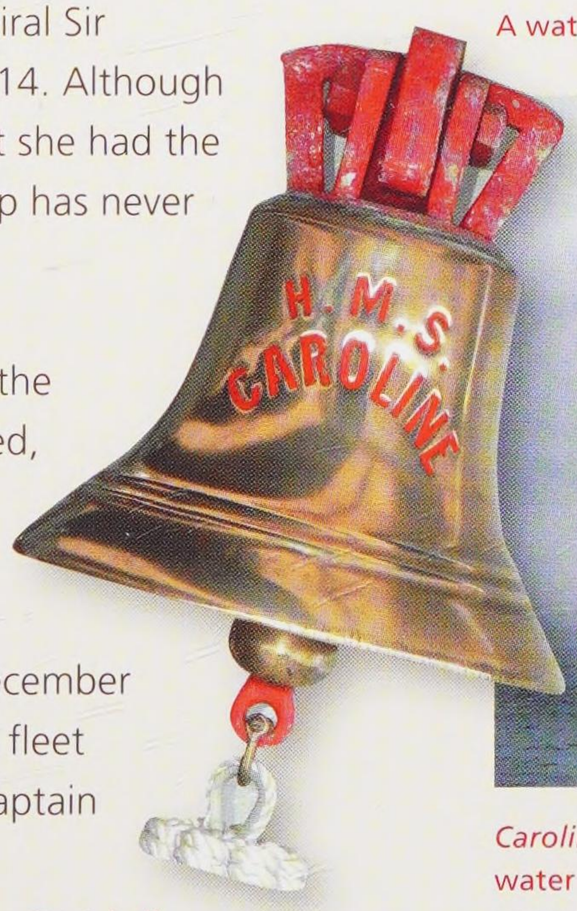
The contract for what was to become HMS *Caroline* went to Cammell Laird & Company, at Birkenhead on the River Mersey.

Work began on 28 January 1914 with the laying of the keel, the central spine, around which her hull would be built, running from bow to stern. Over the next year, components arrived from all over the British Isles, including her armoured steel conning tower, made by Hadfield's steel foundry in Sheffield, and steel plate from Colville's and the Lanarkshire Steel Company, both Scottish businesses. *Caroline* was launched by Lady Power, wife of Admiral Sir Laurence Power, on 21 September 1914. Although *Caroline* was built quickly, a claim that she had the fastest build time of any major warship has never been proved.

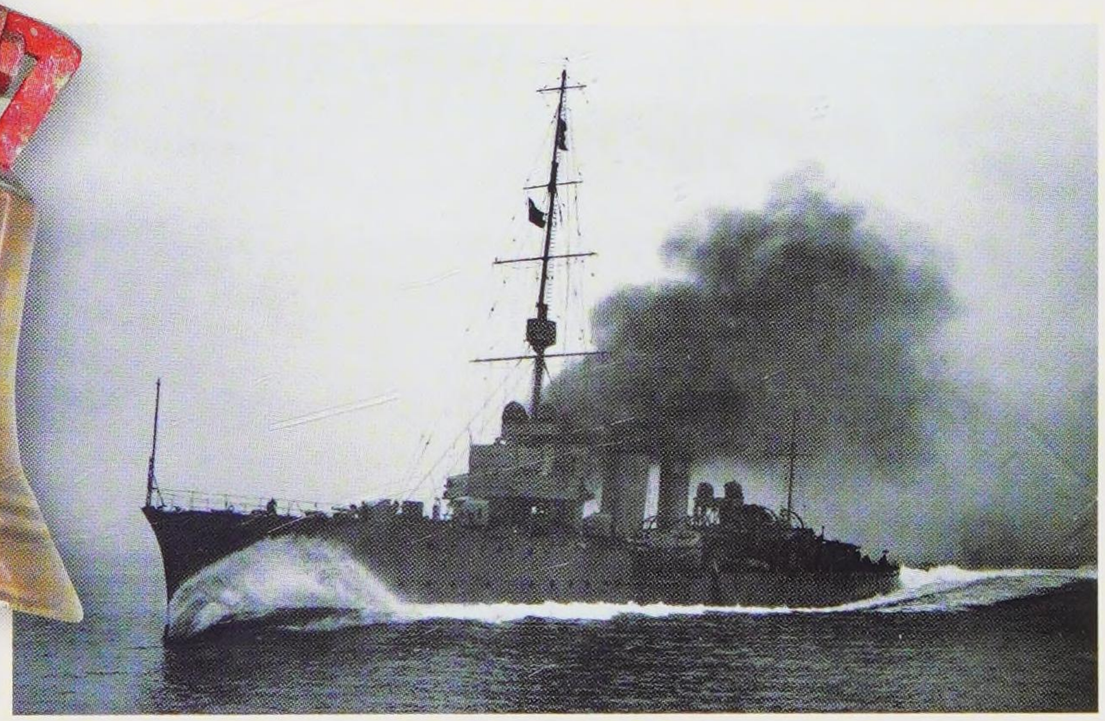
Over the next two and a half months the cruiser's interior spaces were completed, and she was filled with the mass of stores and equipment she needed to be an operational ship, a process known as 'fitting out'. Finally, on 4 December 1914, she was commissioned into the fleet under the command of 39-year-old Captain Henry Ralph Crooke, RN.



A watertight door with the date stamped on it: 30 June 1914.



HMS *Caroline*'s bell.



Caroline on her speed trials on the 'measured mile', a section of coastal water with distance markers on the shore, where a new ship's speed could be accurately calculated.

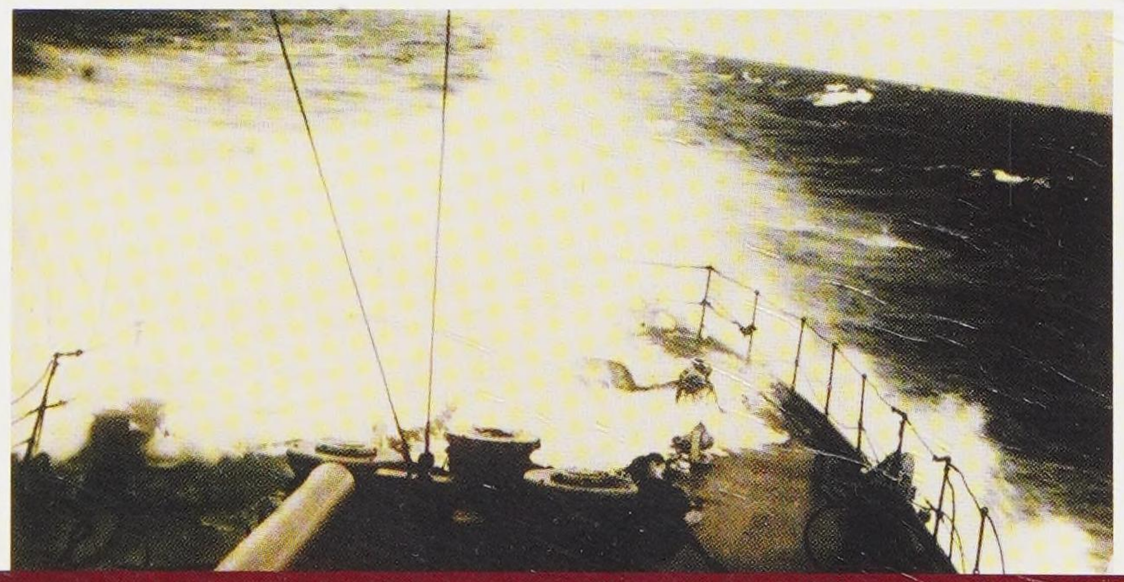
THE FIRST WORLD WAR: 1914–16

Crooke took his new command to sea on 6 December 1914 and began 'working up' his crew into an efficient team.

In just two days of intensive training, he had his men practising for day and night fighting, firing the ship's guns, and high-speed steaming for trials on the 'measured mile'. If his crew doubted the work's value, they were probably convinced on the day *Caroline* joined the 2nd Cruiser Squadron at the wartime base of the Royal Navy's Grand Fleet, Scapa Flow in the Orkney Islands, when she had to investigate a report of an enemy submarine.

Much of *Caroline*'s work involved gruelling patrols of the North Sea in dreadful weather. Veterans remembered that the ship was always on the move and, according to rumour, 'the navigator got an award for taking her in and out of Scapa Flow more times than any other ship'.

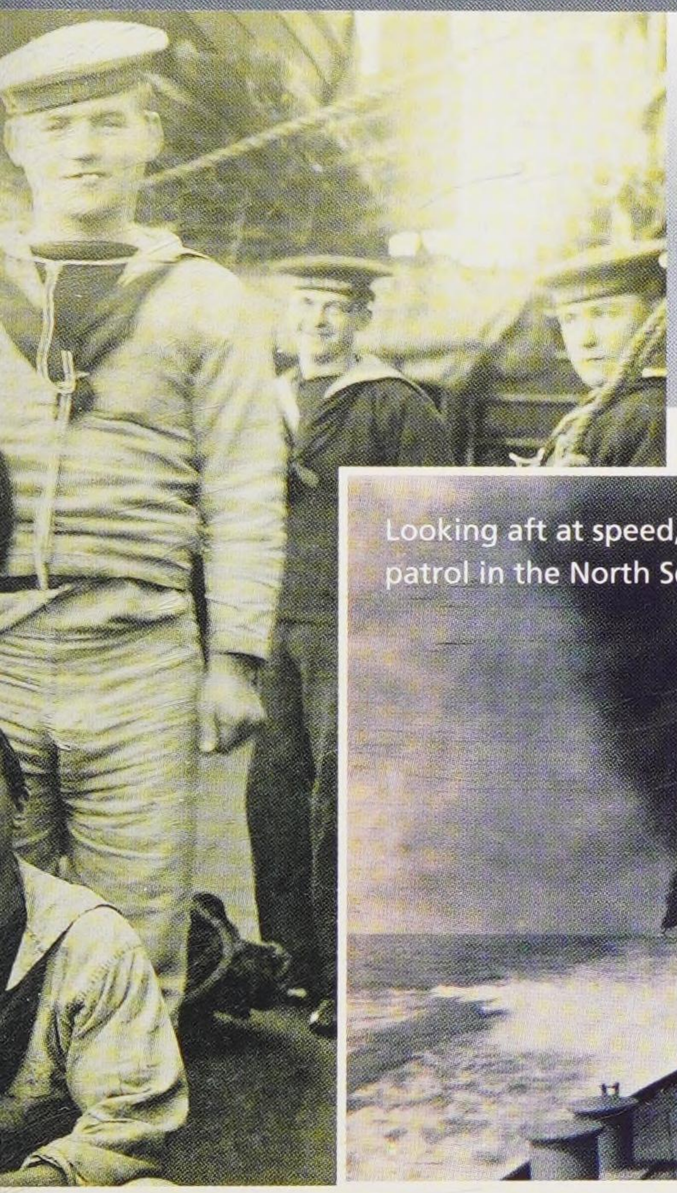
Supplementing the ration: *Caroline* sailors go fishing in Orkney.



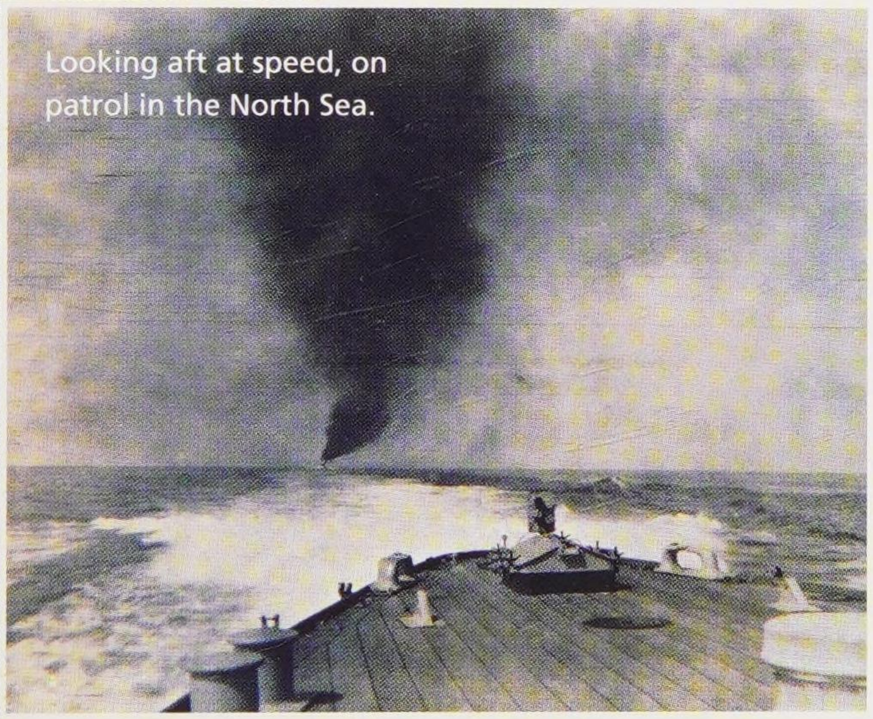
'[Captain Crooke] really was a marvellous man and I would have gone anywhere with him.'

Leading Seaman Albion Smith, Captain Crooke's personal steward

Left: A forward-looking view of rough seas across *Caroline*'s forecastle.



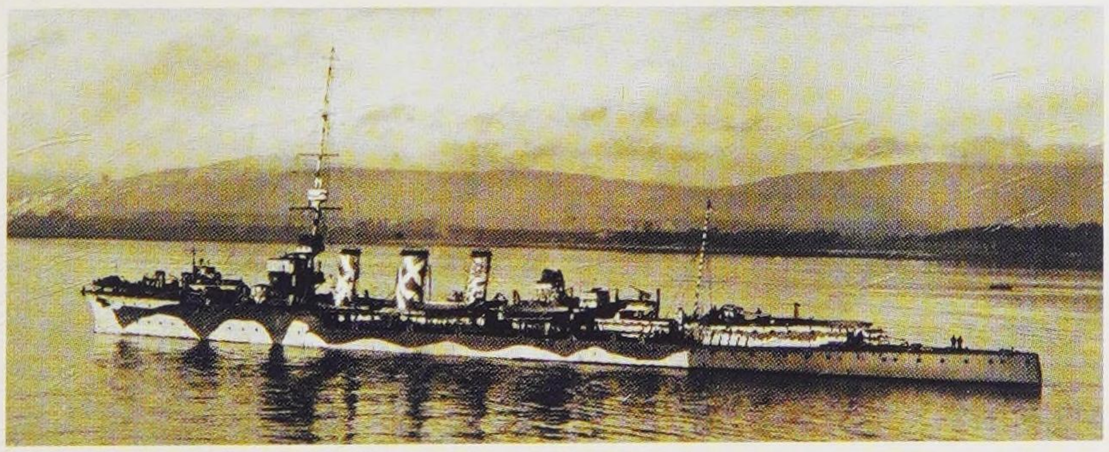
When not patrolling the North Sea and searching neutral merchant ships for war contraband, *Caroline*'s logbook shows a relentless list of gunnery exercises, torpedo exercises and fleet manoeuvres.



Looking aft at speed, on patrol in the North Sea.

These manoeuvres, known as PZ exercises, lasted for up to 72 hours, and saw *Caroline* engaged in mock attacks in which she alternated between the role of attacker and defender, allowing the Grand Fleet to refine and practise its battle tactics.

By June 1915 HMS *Caroline* needed some minor repairs and her underwater surfaces needed to be cleaned, to maintain her high speed. She was dry-docked at Newcastle on 7 June, and was still there on the 16th when the town was attacked by German Zeppelin airships – a party of sailors went ashore to assist in firefighting. After three weeks in refit *Caroline* returned to the familiar round of patrolling and PZ exercises, which would be her routine for the next three years, interrupted only by her one naval engagement – the Battle of Jutland.



A unique photograph of *Caroline* in an early, experimental 'obliterative camouflage scheme', which predated proper dazzle painting by two years.

'Although she was shipping a lot of water I was not sea-sick and I was thrilled at this because I was nearly always sick all the time I was aboard.'

Electrical Artificer 4th Class Frederick Foxon, during a typical North Sea gale, December 1915

JUTLAND

The Battle of Jutland was fought on 31 May 1916. It was the largest surface naval battle in history, in terms of the tonnage of the ships engaged. It was also the only fleet-level clash between dreadnought battleships, unassisted by submarines or strike aircraft.

The British and German empires possessed the two greatest dreadnought fleets in the world. German naval officers dreamed of 'Der Tag' (The Day), when they would smash the British and seize control of the seas, but the British fleet was much larger than theirs. In January 1916 Vice Admiral Reinhard Scheer took command of the Kaiser's High Seas Fleet, and devised a plan which he hoped would provoke the British into making a mistake.

German battlecruisers were to attack British convoys heading to neutral Norway. Scheer expected Vice Admiral Sir David Beatty to send his Battlecruiser Fleet from Rosyth to engage with the Germans, and that the main Grand Fleet further away in Scapa Flow, commanded by Admiral Sir John Jellicoe, would follow later. Scheer hoped to destroy Beatty's force before Jellicoe arrived, which would give the Germans equality in numbers.

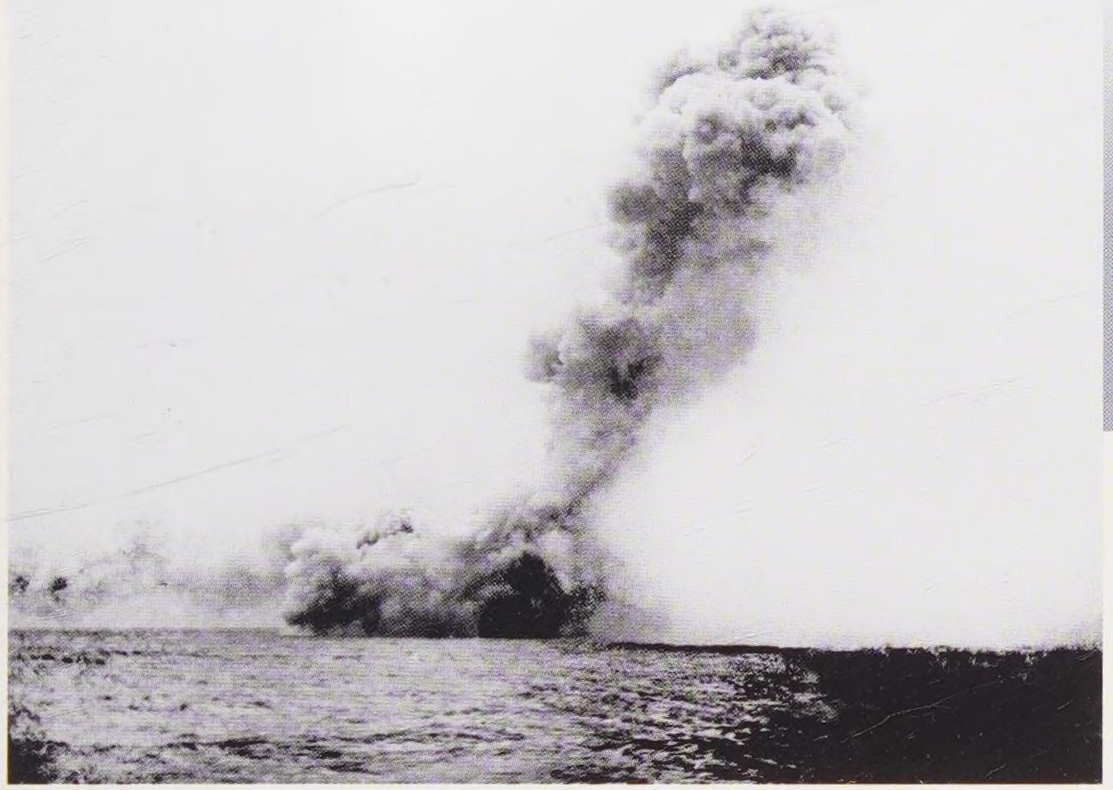
'It was a glorious sight to see our big ships firing their broadsides … our men … clapped as if witnessing a football match [and] gave loud cheers!'

Carpenter Frederick Fielder, HMS Caroline

Above left: Admiral Sir John Jellicoe, Commander-in-Chief of the Grand Fleet.

Above right: Vice Admiral Sir David Beatty, Commander of the Battlecruiser Fleet.

Right: Part of the Royal Navy's Grand Fleet at sea.



The destruction of HMS *Queen Mary*. The battlecruiser blew up and sank in seconds when a German shell penetrated her Magazine; 1,266 men died.

Today, *Caroline* is the only surviving ship that fought at Jutland, although she almost missed the battle because her steering gear briefly failed when the fleet left Scapa Flow late on 30 May 1916.

By now the cruiser had been transferred to Commodore Charles Le Mesurier's 4th Light Cruiser Squadron (4 LCS). *Caroline* and Le Mesurier's other four ships were cruising four miles ahead of the Grand Fleet. At 5.40pm *Caroline*'s crew could see smoke on the horizon and hear distant gunfire. Jellicoe deployed the fleet, leaving a large number of destroyers and cruisers, including 4 LCS, to defend his battleships against German torpedo craft, or to support British torpedo attacks – exactly what *Caroline* had been designed for.

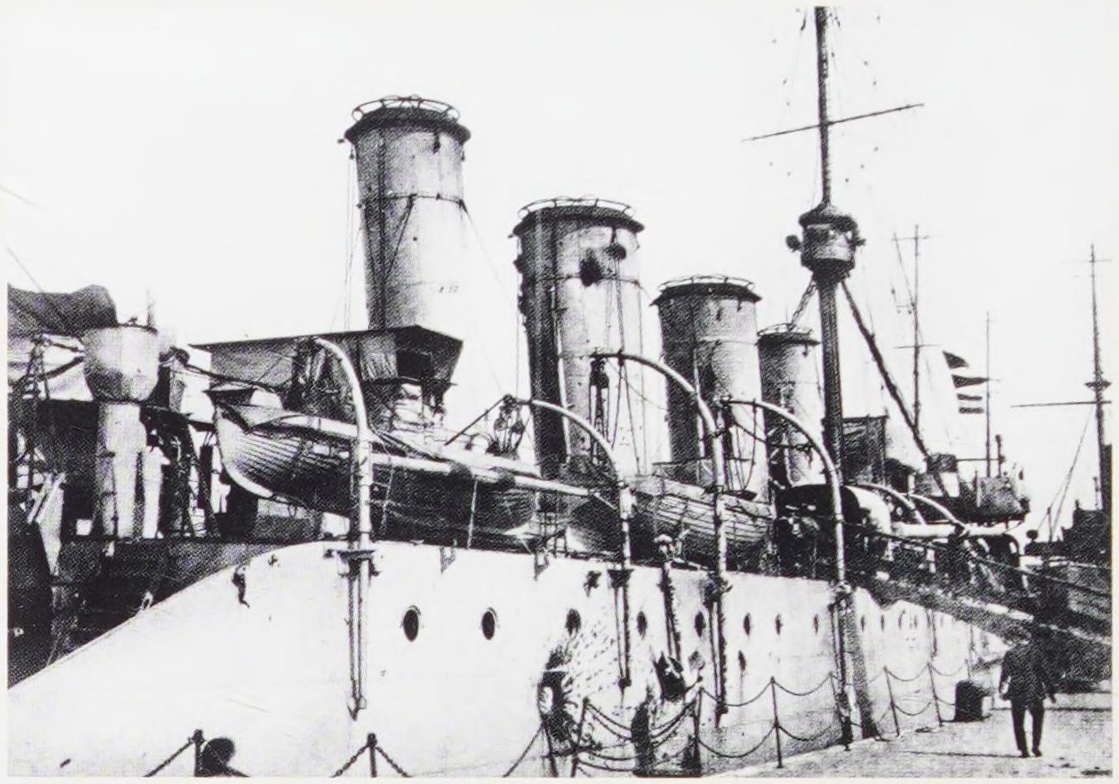
Soon afterwards, Rear Admiral Sir Horace Hood's 3rd Battlecruiser Squadron passed across *Caroline*'s bow and the first German shells landed around her. Hood's flagship HMS *Invincible* exploded and broke in two, her bow and stern rising vertically from the water like a grim memorial.

'Guns were hurling 15-inch shells into the opposing fleets with roars and flashes, as if scores of thunderstorms had met and got angry ... the sky became thick and overcast by vast clouds of dense black smoke, belched out by scores of funnels.'

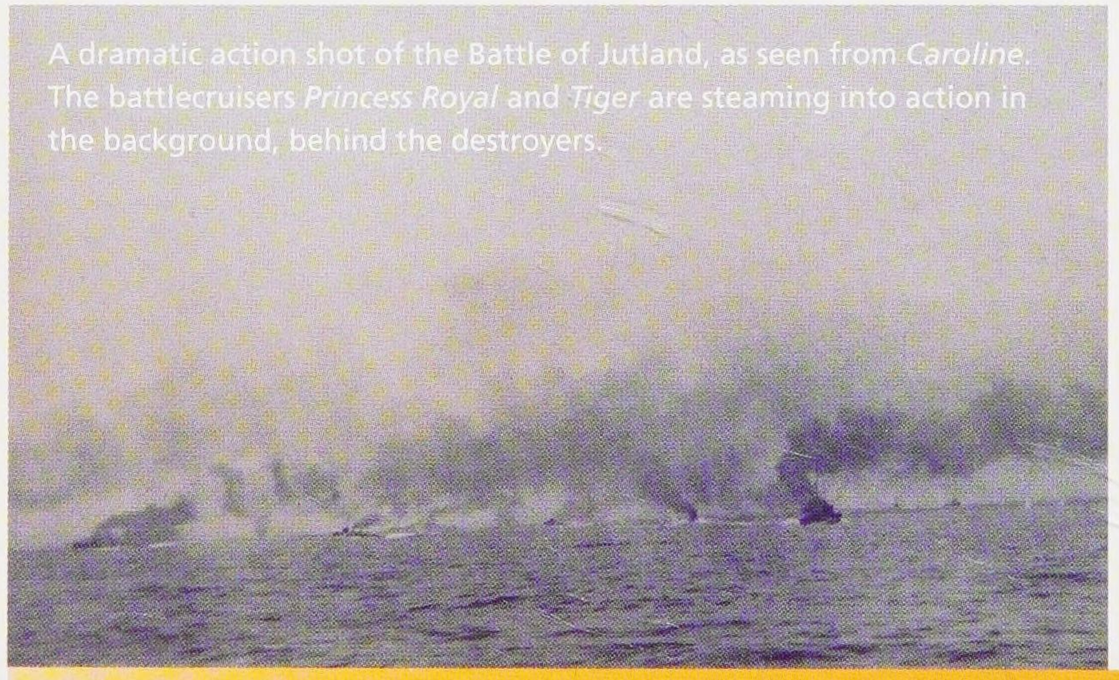
Leading Seaman Albion Smith

Caroline's Electrical Artificer 4th Class Frederick Foxon kept a diary of the battle.

'7.20pm … Hell of a fight going on between BCS [Battle Cruiser Squadron] and enemy. *Lion* on starboard beam, centre turret knocked out. Three torpedoes just missed us by yards. Shells falling round. *Invincible* blew up. 8.30 Heavy firing started up again. … Fired salvoes at destroyer, turned her inside out … Battle Fleet comes up. *Iron Duke* crosses our stern nearly rammed us. … Cannot see enemy owing to mist and some smoke.'



At 7.28pm 4 LCS turned to meet a German destroyer attack, and two minutes later *Caroline* opened fire at a distance of 9,200 yards, firing three 6-inch and nine 4-inch rounds before Crooke had to manoeuvre to narrowly avoid two German torpedoes. There was a brief lull in the action, before Le Mesurier took the 1st Division of 4 LCS to attack German destroyers, leaving Crooke in charge of the 2nd Division, *Caroline* and *Royalist*.



A dramatic action shot of the Battle of Jutland, as seen from *Caroline*. The battlecruisers *Princess Royal* and *Tiger* are steaming into action in the background, behind the destroyers.

'A torpedo was seen making for us, but fortunately, it was near the end of its run and was travelling at only about six knots. As it neared our ship, the wash of our propellers turned it away just sufficiently to clear the stern by inches.'

Carpenter Frederick Fielder, HMS Caroline

Half an hour later, *Caroline*'s lookouts sighted three German dreadnoughts on the starboard beam, closing slowly on the British fleet.

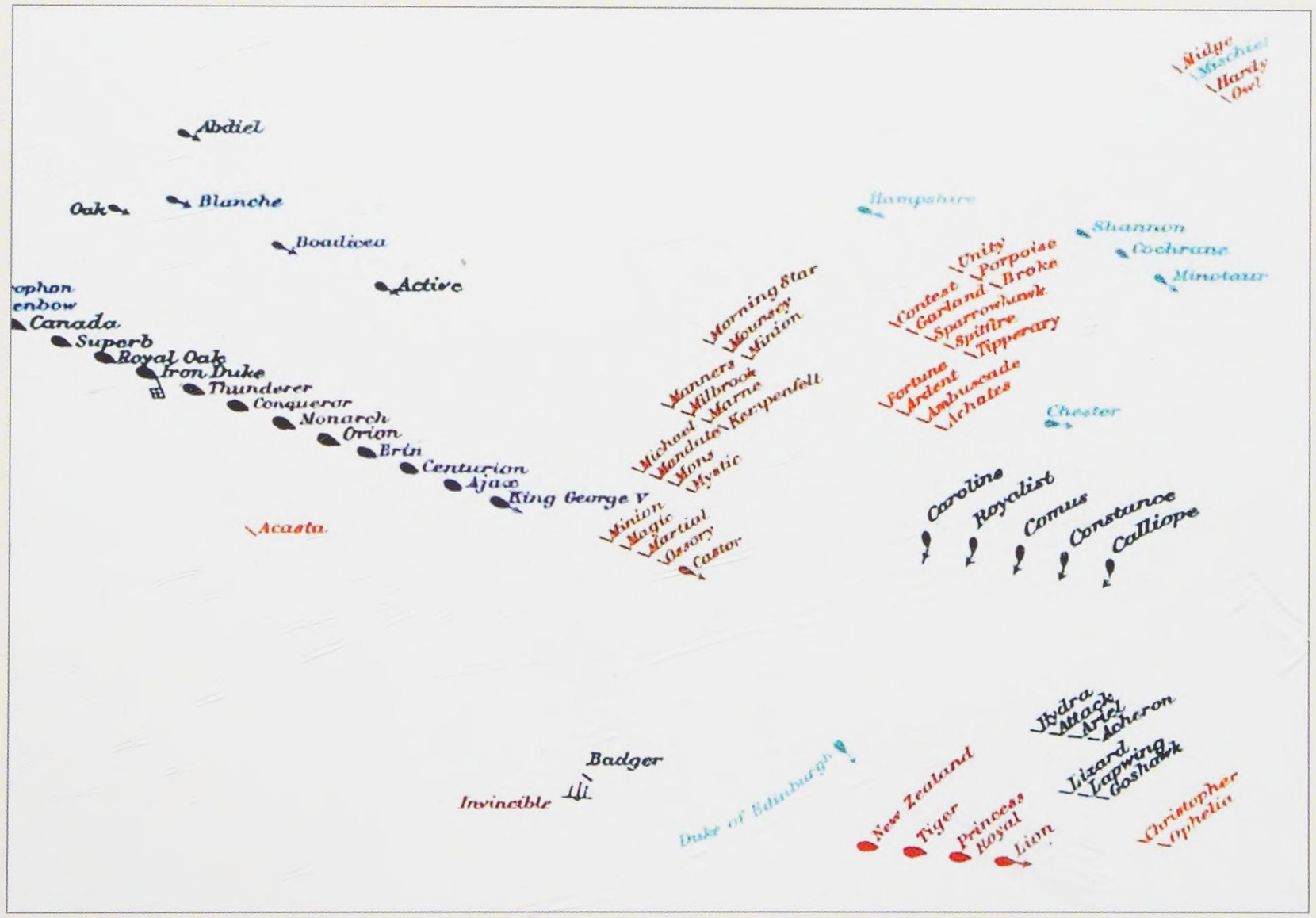
Left: *Caroline* escaped damage but many ships were badly hit, including *Caroline*'s half-sister HMS *Southampton*.

'As we fired two torpedoes, the nearest ship to us opened fire with a broadside of 11-inch guns ... by all the rules of gunnery the next broadside should have finished our career!'

Carpenter Frederick Fielder, HMS Caroline

Crooke signalled that he intended to make a torpedo attack and brought his two cruisers closer to the much bigger enemy ships, at which *Caroline* fired two torpedoes and *Royalist* one. *Caroline*'s two torpedoes narrowly missed the German dreadnought *Nassau*, but unfortunately she could not fire again because a replacement torpedo jammed in the tube. With German shells falling all around, Crooke finally turned away, both ships making smoke to conceal themselves.

The next ten minutes were unpleasant, as *Caroline* came under accurate German fire. One shell passed between *Caroline*'s wireless antennae and the Upper Deck, but the ship was not hit. Twenty minutes later Le Mesurier reformed 4 LCS and took up station alongside the fleet. *Caroline* missed the last, chaotic night phase of the battle and returned safely to Scapa Flow at 12:50pm on 2 June, her crew spending the afternoon making and mending clothes.



Left: Dreadnoughts of the 2nd Battle Squadron at Jutland.

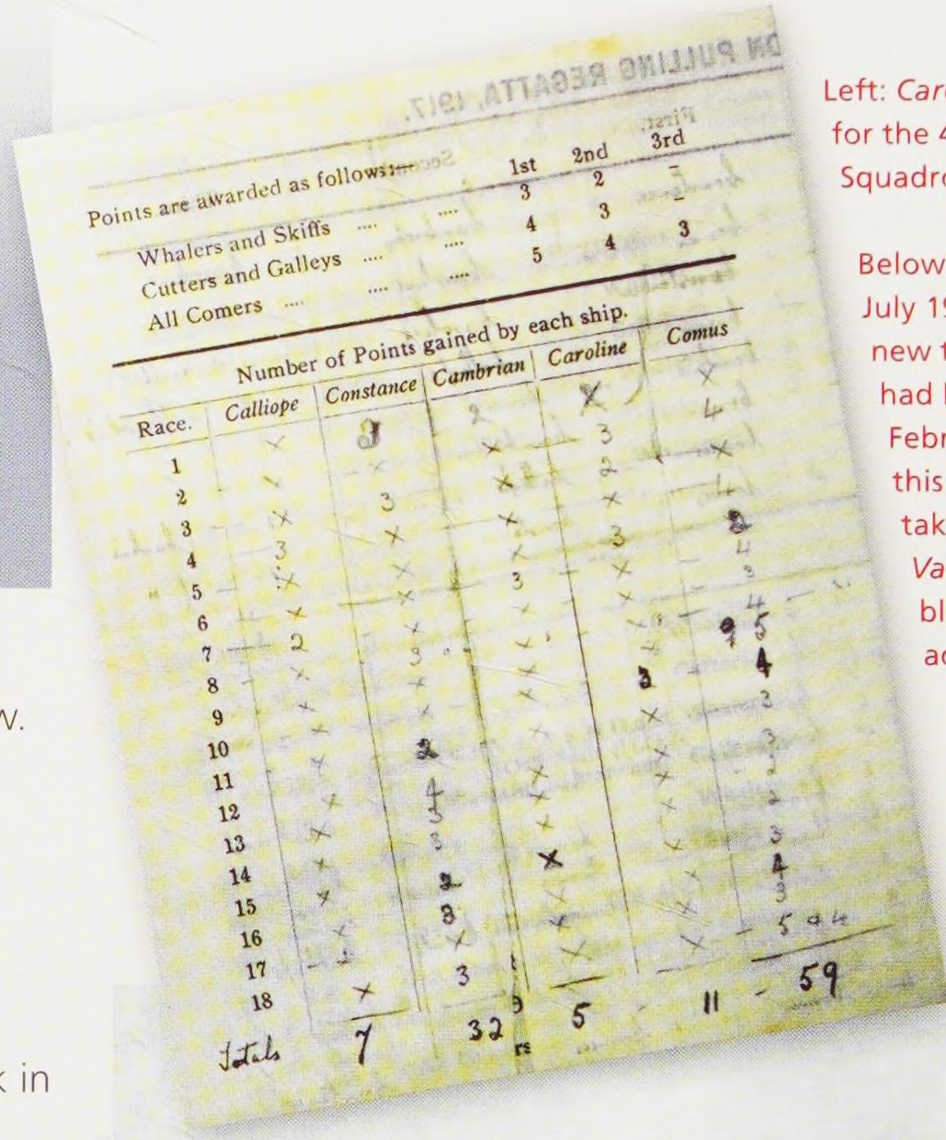
Right: Plan of the battle, at approximately 6.44pm. *Caroline* is in the centre, to the right.

THE FIRST WORLD WAR: 1916–18

Caroline's war was not over. More than two years of exercises and patrolling remained, broken up by periodic dry-dockings and occasional efforts to relieve the boredom of Scapa Flow, including boat races and concert parties.

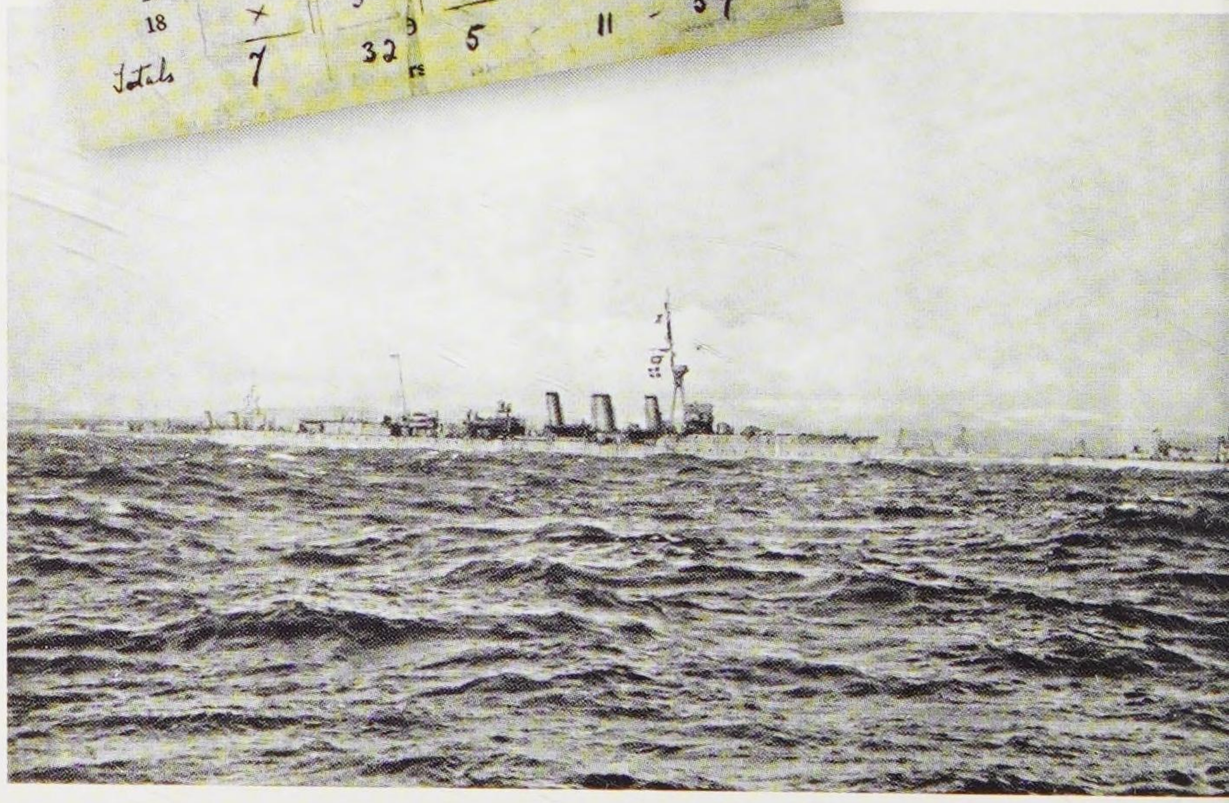
In February 1917 *Caroline* was given a major refit in Glasgow. The following month, on 27 March, Captain Crooke left to take command of HMS *Excellent*, the Royal Navy's Gunnery School in Portsmouth, and was replaced by Captain Oliver Leggett, previously Admiral Jellicoe's Master of the Fleet (a staff officer). In July, a quiet Scapa night was violently interrupted when the battleship *Vanguard* blew up and sank in an accidental explosion just a quarter of a mile away.

> 'Suddenly at 11:36 a huge sheet of flame was seen to surround one of the ships of the 4th Battle Squadron … the whole ship seemed to be lifted by an enormous explosion … a deafening roar and crash shook the air and the Carry [*Caroline*] quivered from stem to stern.'
>
> *Telegraphist William Crick, HMS* Caroline


Points are awarded as follows:—
1st 2nd 3rd
Whalers and Skiffs 3 2 1
Cutters and Galleys 4 3 2
All Comers 5 4 3
Number of Points gained by each ship.
Race. Calliope Constance Cambrian Caroline Comus
Totals 7 32 5 11 59

Left: *Caroline*'s score card for the 4th Light Cruiser Squadron Regatta.

Below: *Caroline* in July 1917, with the new tripod mast that had been fitted in February. Soon after this photograph was taken the battleship *Vanguard* (right) blew up in an accidental explosion.



'Just after 9am a picket boat came up river, blowing her siren, and news of the Armistice spread like wildfire. ... Work ceased in the yard. A crane, almost in the act of lifting out a gun shield, was deserted and there it remained, poised in mid-air for nearly a week ...'

Telegraphist William Crick, HMS Caroline

Although the German fleet never challenged the British in a major surface battle again, instead trying to starve Britain into submission using U-boats, the war in the North Sea did not end with Jutland.

The arrival of the US Navy's 6th Battle Squadron to join the Grand Fleet at the end of 1917 was a welcome diversion. Here, a US Navy Petty Officer in a distinctive high cap plays cards with some of *Caroline*'s crew.

Caroline was at sea on 17 October 1917 when German cruisers attacked a convoy to Norway, sinking ten merchant ships and two escorting destroyers. She spent two days scouring the North Sea for the raiders but they escaped.

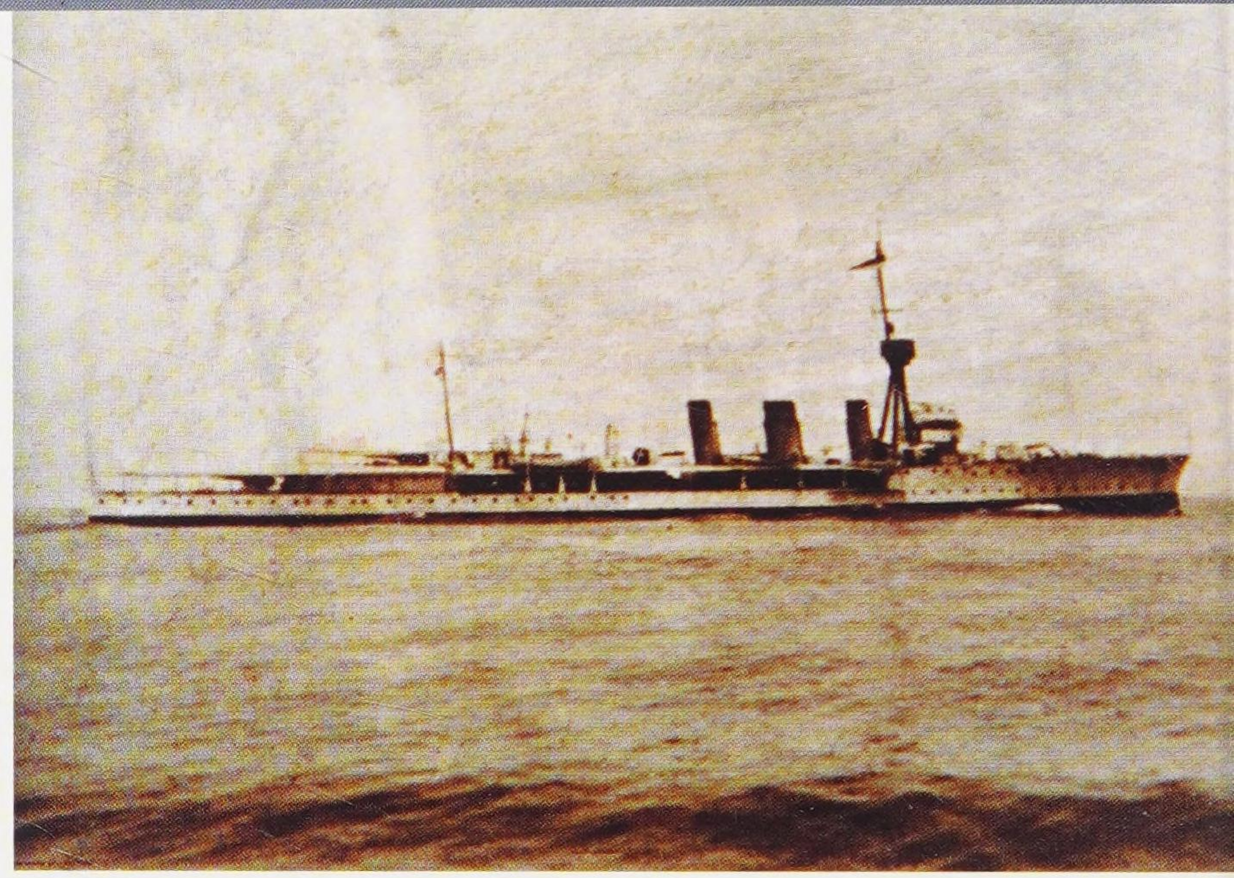
At the end of October 1918, *Caroline* was fitted with four new propellers and additional searchlights, and Newcastle dockyard tried to stop an oil leak that had plagued her throughout the war. The ship was still in dry dock when the Armistice was signed on 11 November.

On patrol after a German attack on a convoy to Norway, October 1917.

HMS *Caroline* was decommissioned and reduced to 'Care and Maintenance' on 6 February 1919. Since December 1914 the ship had steamed an estimated 80,000 nautical miles, or 148,000km – more than three times around the world!

EAST INDIES STATION: 1919–22

Caroline's retirement did not last long. On 27 June 1919 she recommissioned under Captain William Law and two days later left for the Royal Navy's East Indies Station, covering the Indian Ocean, the Persian Gulf and the Red Sea.



Above: Taken by Lieutenant-Commander Stack showing *Caroline* on passage from Colombo to Mauritius, October 1921.

Caroline arrived at Bombay (modern Mumbai) on 28 July and was immediately refitted at the local dockyard. For two years the ship 'flew the flag' around the Indian Ocean, much of which was under European control at the time. Based around Bombay and Colombo, *Caroline* visited the Maldives, Seychelles, Mauritius and Aden.

In early 1920 *Caroline* carried Prince Carol of Romania between Colombo and Bombay, and early in 1921 she served as flagship to the Commander-in-Chief, East Indies, Rear Admiral Hugh Tothill, transporting him to Penang, in today's Malaysia, for a conference with the C-in-C China Station. Soon afterwards, she was paid off and recommissioned with a new crew on the same day under Captain Ralph Sneyd.

Below: A gift presented by the people of Bassein in Burma (now Pathein, in modern Myanmar) to *Caroline* in January 1920.

'Great interest was taken in the ship. The anchorage was crowded with native boats which came alongside, the Burmese being encouraged to look around the ship in conducted parties.'

Sub-Lieutenant R.H.V. Isacke, HMS Caroline, *Bassein, Burma (modern Myanmar), 1920*

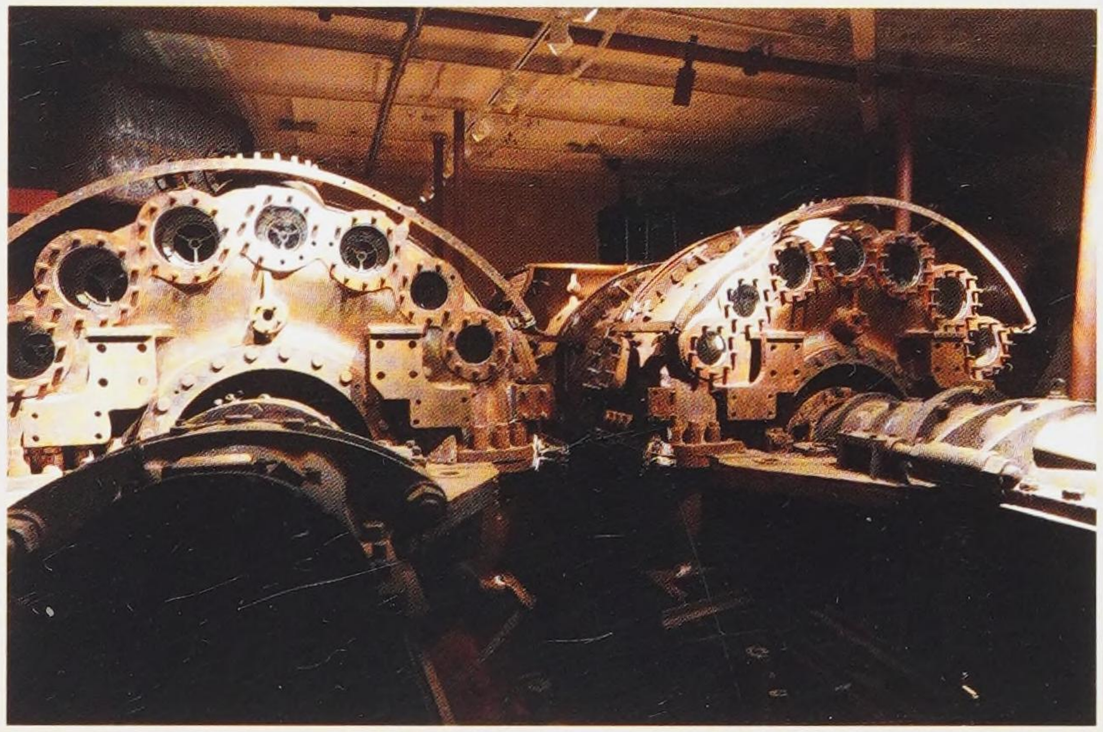
By the end of 1921, HMS *Caroline* was wearing out. Although less than ten years old, she had steamed thousands of miles.

The dockyard at Bombay did not have the necessary equipment and expertise to maintain her sensitive, complicated steam turbines. By mid-1921, defects in her steam plant required reductions in boiler pressures for safety reasons. A month later it was decided that as soon as a replacement arrived, *Caroline* would return home and be placed in reserve.

On 24 November *Caroline* exchanged crews with HMS *Comus*, Captain Archibald Cochrane now taking command. The Admiralty instructed C-in-C East Indies that she was to return to Portsmouth, not to be placed in reserve, but for disposal. She left Colombo on 2 December, limped into Portsmouth on 19 January 1922, and paid off on 17 February. She stayed in Portsmouth for two years and the breaker's yard seemed to be her most likely fate.

'She was very overdue for a refit and ... on the passage home we never exceeded ten knots ... we hit a real snorter in the Bay of Biscay. The Chief [Engineer] said that he feared she might break down and that if she did so there would be danger of her capsizing.'

Surgeon-Lieutenant F.J. Hunt, HMS Caroline, *1921*



Caroline's turbines, which caused her such trouble at the end of 1921.

Decommissioning for *Caroline*'s short retirement in 1922.

THE SHIP'S COMPANY

When she was first commissioned, *Caroline* carried a crew of 289 men.

There were 17 officers, 105 seamen, 13 boys, 29 Royal Marines, 89 Engine Room and 36 'non-executive' ratings. The crew slowly increased during the war, as new men arrived to operate additional equipment, and for post-war service in the East numbers jumped to 361, placing a terrible strain on *Caroline*'s limited accommodation.

Caroline's crew were drawn from the Portsmouth Port Division, but they came from all over Great Britain and Ireland. At first her crew were all volunteers, as conscription (in England, Scotland and Wales) was not introduced until 1916, and were a mix of experienced regular sailors, reservists recalled for wartime service, and younger men who had signed on for 'hostilities only'. In civilian life they might have been clerks, farm workers, labourers or schoolteachers. The first crew served together in hard, uncomfortable conditions for over four years.

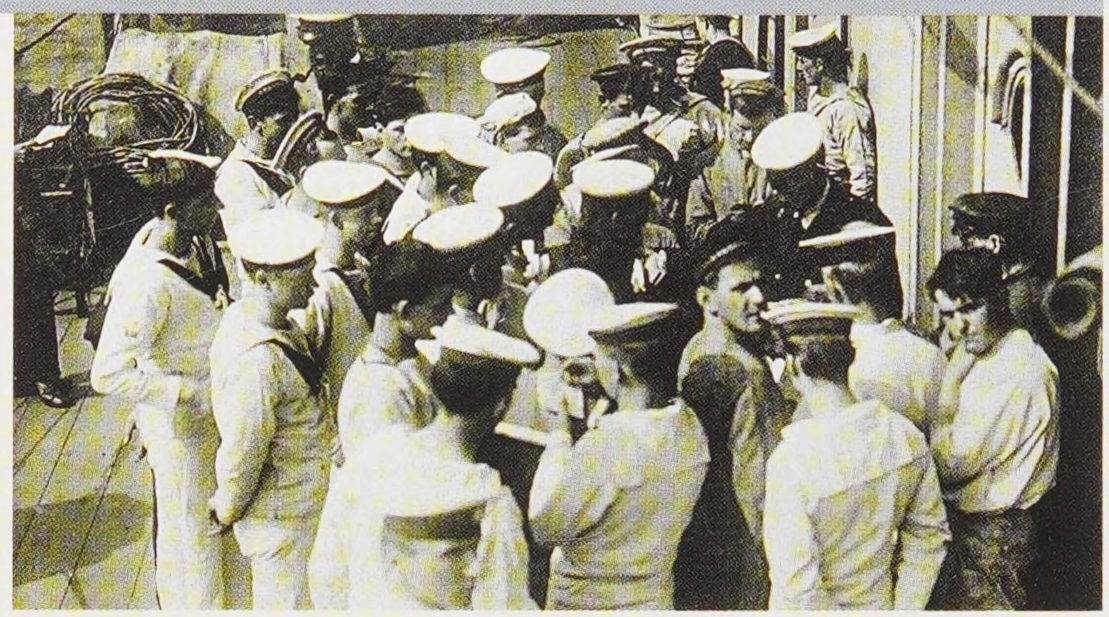
A staged photograph of *Caroline*'s men reading *John Bull*, a popular Sunday newspaper.

CAPTAINS

Caroline had eight captains as a seagoing warship, though two held command only briefly while their own ships were refitting. Her first, Captain Henry Ralph Crooke (October 1914–March 1917), was a 39-year-old gunnery expert.

Crooke had been Assistant to the Director of Naval Ordnance, Captain John Jellicoe, later Commander-in-Chief of the Grand Fleet, and *Caroline* was his first proper command. He retired as a Vice Admiral in 1928. His successor, Oliver Leggett (March 1917–January 1919), was a navigator. Previously Jellicoe's Master of the Fleet, he later became Captain of the Navigation School at Portsmouth.

Francis Buller (January–February 1919) was court-martialled soon after leaving *Caroline* for running his next ship aground. William Law (February 1919–March 1921) was apparently a gifted amateur musician but was damned by faint praise as 'loyal & conscientious [but] somewhat lacking in personality'. Ralph Sneyd (March–December 1921) was a war hero, awarded the Distinguished Service Order at the start of the war, and then promoted for his part in the Zeebrugge Raid in 1918. Superiors described *Caroline*'s last Captain, Archibald Cochrane (December 1921–February 1922), as 'a good average officer'.



Distributing mail to a group of men in white summer rig.

Caroline's officers with Captain Leggett (middle row, centre, with beard).

OFFICERS

Caroline's 17 officers were her 'senior managers', responsible for the smooth running of their various technical departments and the welfare of the men.

At the top of the tree was the First Lieutenant, or Executive Officer. When *Caroline* was commissioned this was Lieutenant-Commander the Honourable Edmund Drummond. A good 'Number 1' was a buffer between the Captain and his crew, taking care of discipline and ensuring the ship's company retained cohesion. Below him were three lieutenants, including the ship's gunnery and navigating officers.

The remaining officers were mostly technical specialists, including two Engineering officers who, despite the modern Navy's total reliance on steam power, were still sometimes viewed as 'second-class citizens' in a service dominated by seamen and gunnery officers. Similarly apart were *Caroline*'s two Surgeons and her two Paymasters, responsible for accounts and supplies. Finally, *Caroline* carried four senior warrant officers: her Carpenter, Gunner, and two Artificer Engineers. These were senior but still non-commissioned ranks, socially marooned between officers and men.

Caroline's shipwrights, specialist marine carpenters, are grouped in front of the Bridge ladder. Even steel ships like *Caroline* still had wooden decks, boats and other fittings to maintain.

Engineer Commander David Duke and Boy Seaman Coombes on *Caroline*.

MEN

Over a third of *Caroline*'s crew were seamen, distinguished by their traditional 'square rig': woollen pullover and bell-bottom trousers, striped collar and round cap.

Seamen could specialise in Signals or Gunnery, or one of the technical fields of Torpedo and Electrical, or Wireless Telegraphy (radio operators). In addition, *Caroline* carried 29 Royal Marines, who provided landing parties and gun crews, and 36 'non-executive' ratings, including Clerks, Writers and Stores Assistants. In action, they might haul ammunition or work as stretcher-bearers. The 89 Engine Room personnel were still known as 'Stokers' even though *Caroline* was oil-fuelled. Finally, there were 13 Boy Seamen, some as young as 15.

Over time we will build a picture of *Caroline*'s crews using official records and their letters, diaries and memoirs. Amongst those we have identified so far are:

- Officers' Steward Guilherme Remedios, described as 'a man of colour' from Goa, a Portuguese colony in India.
- Stoker Petty Officer Arthur Fletcher, a 32-year-old regular from North Kensington, London.
- Leading Seaman Albion Smith, Captain Crooke's personal steward, who put their good relationship down to knowing 'when to keep silent'.
- Boy Telegraphist William Crick, who came to *Caroline* from the light cruiser *Gloucester*.

Scrubbing the decks: a daily task usually carried out before breakfast.

Caroline sailors in typical working rig.

LIFE ON BOARD

All warships had one feature in common: everyone lived close together in basic conditions. Engines, boilers and weaponry came first, and the men were squeezed in around them.

Most of the ship's company were crammed inside two large 'Mess Decks' in the ship's forward part, each with enough space for up to 94 men to sling their hammocks, eat their meals and store their belongings. *Caroline* had limited heating and ventilation. In winter, the men relied on stoves. The Mess Decks were thick with condensation, which would run down the ship's sides and drip onto the men, a process that was nicknamed 'sweating'. In the Indian Ocean the ship became a stifling furnace. Men slept on the Upper Decks, and when *Caroline* was under way they would rig air scoops on the open portholes.

Caroline's long, slender hull tended to roll in heavy seas, sometimes by as much as 30 degrees. The Mess Decks were frequently swamped, equipment damaged, and on 26 December 1914 *Caroline*'s butcher, 30-year-old Royal Marine Private James Morris from Walsall, was swept overboard and drowned.

'Make and mend': traditionally code for an afternoon off.

Surgeon Lewis Smith dozes in the Wardroom, while Engineer Commander David Duke reads a newspaper.

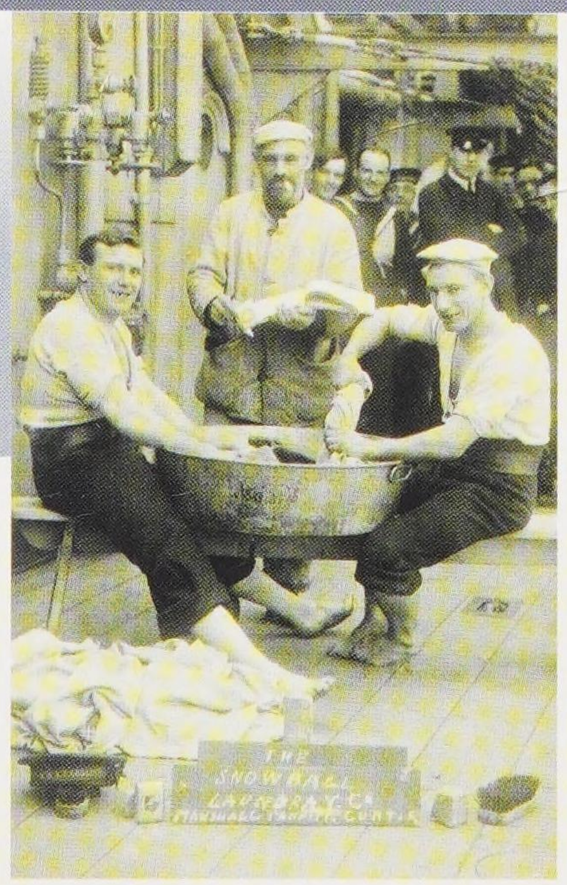
Officers had tiny cabins at the after end, grouped around the Wardroom, a central dining and recreational space. These provided limited privacy.

The Captain had relatively comfortable accommodation, reflecting his greater responsibilities. His cabin suite was on the Upper Deck, aft, and consisted of a dining cabin and a 'day cabin', essentially an office, along with a sleeping cabin and a private bathroom. Senior rates, specialists and the ship's Royal Marines had smaller, separate Mess Decks. Washrooms and lavatories were communal for everyone but the Captain, and officers, senior rates and men had separate and progressively more basic facilities.

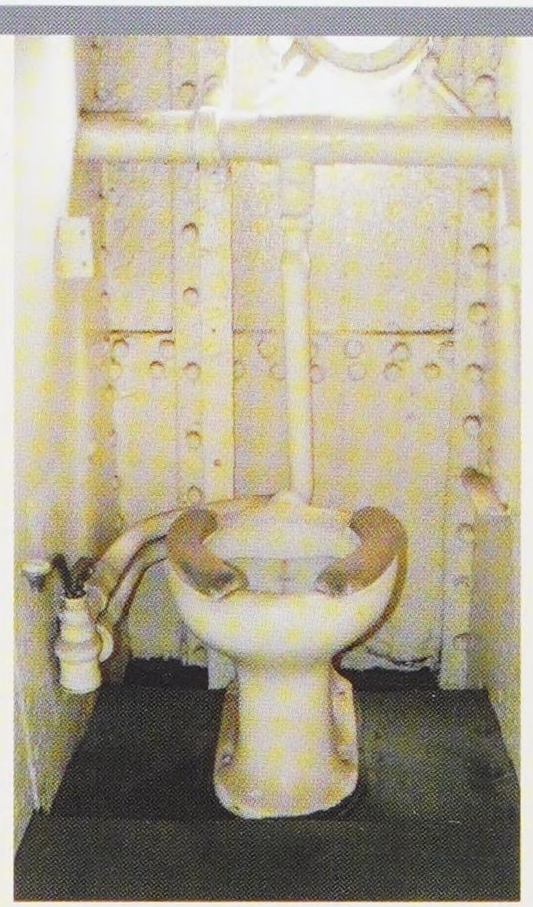
The only private space for ratings was their tiny 'ditty box' for personal possessions, which was not subjected to inspections. Their mail was censored, in 1914 by the ship's Surgeon, Ernest Murray, MD, fortunately a sympathetic and popular officer.

The censor is a nice young man,
Who goes to church on Sundays,
And prays to Heaven to give him strength,
To cut up our letters on Mondays.

Inserted into a letter to a friend by Leading Seaman Albion Smith



The 'Snowball Laundry Company' was a way of earning extra money if sailors were prepared to wash their messmates' clothes.



The Heads (toilets).

HMS *Caroline*'s football team, 1914–16.

Food aboard *Caroline* was basic but nourishing.

On Christmas Eve 1914 the ship's company had bacon and mashed potato for breakfast, stew for dinner, bread and jam for tea, and sardines for supper. Christmas dinner was ham and 'duff' – plum pudding. The Captain had his own galley, his own cooks prepared his meals and he was served in his cabin by his own stewards. By tradition, the Captain dined alone, although he could invite his officers to join him. The officers dined in the Wardroom, and had their own galley, cooks and stewards. Another tradition dictated that the Captain could only dine in the Wardroom by invitation.

The men operated a centuries-old system known as 'broadside messing'. Each Mess Deck, confusingly, was divided into individual tables of about eight men also known as 'messes', and each mess nominated a 'mess cook', a role that was usually rotated. The Paymaster drew up menus, the ship's cooks prepared the food, and the mess cooks were then sent to the galley at mealtimes to collect their allocation.

A staged photograph of the crew with meat and potatoes at the ready. The ship's butcher (far left) is ready for action!

Despite the conditions, morale was apparently high. Unlike soldiers, they were spared the discomforts of trench life.

Like many ships *Caroline* had a nickname – 'Carry' – and her ship's company called themselves 'Carries'. They did all they could to entertain themselves at anchor in Scapa Flow, a remote outpost offering almost no distractions for bored sailors. Concert parties were common, and when everyone had seen enough of their own, visits were arranged from other ships. Inter-ship boat races and football matches helped to keep spirits up, and for the officers there were tennis courts and even a rough-and-ready golf course on a rocky islet named Flotta, although the greens probably left much to be desired.

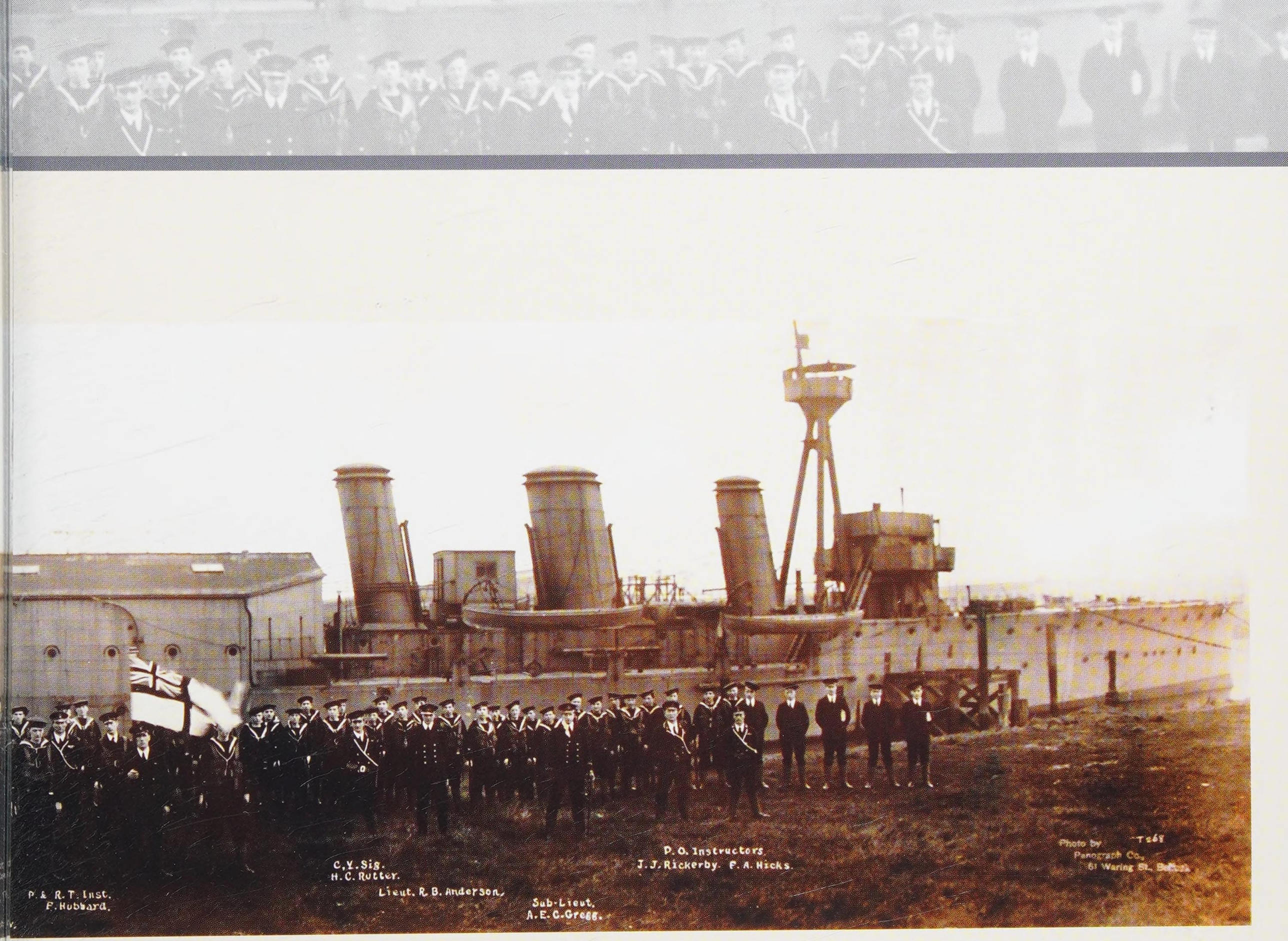
Even in wartime, *Caroline* had her share of pets and mascots: there were two cats, Tom and Puff, and a large, rather sinister-looking rabbit named Blücher, named after the German battlecruiser sunk at the Battle of Dogger Bank in January 1915.

Puff the Cat, one of *Caroline*'s pets.

The Lower Deck forward showing the hammock storage bins.

HMS *Caroline*'s concert party, complete with reclining gorilla: essential for relieving the tedium of life at Scapa Flow.

The Ulster Division RNVR, complete with field gun and White Ensign, parade in front of HMS *Caroline*.


C.Y.Sig.
H.C. Rutter.
Lieut. R.B. Anderson.
Sub-Lieut.
A.E.C. Gregg.
P. & R.T. Inst.
F. Hubbard.
P.O. Instructors
J.J. Rickerby. F.A. Hicks.
Photo by
Panograph Co.,
61 Waring St. Belfast.

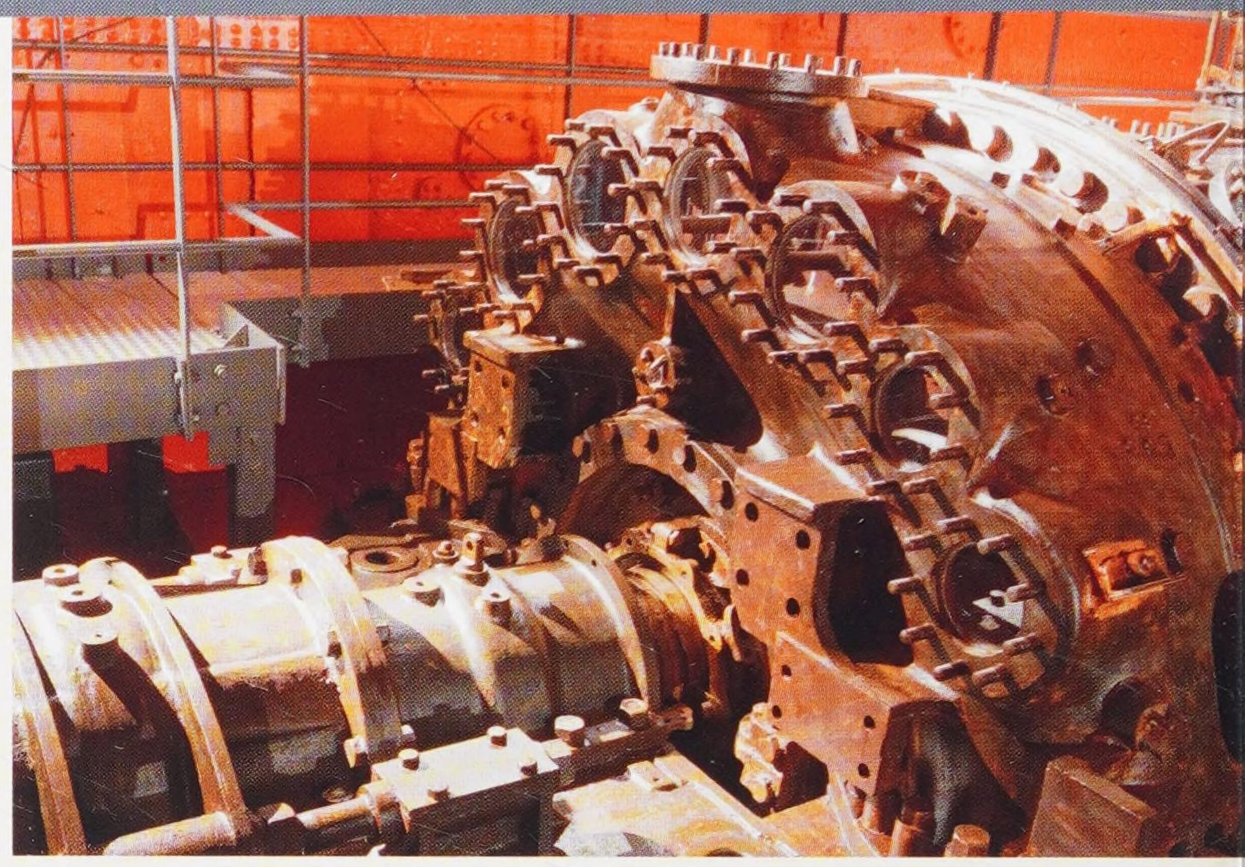
POWERING HMS *CAROLINE*

Much of *Caroline*'s below deck space was taken up by her engines, boilers and oil fuel tanks.

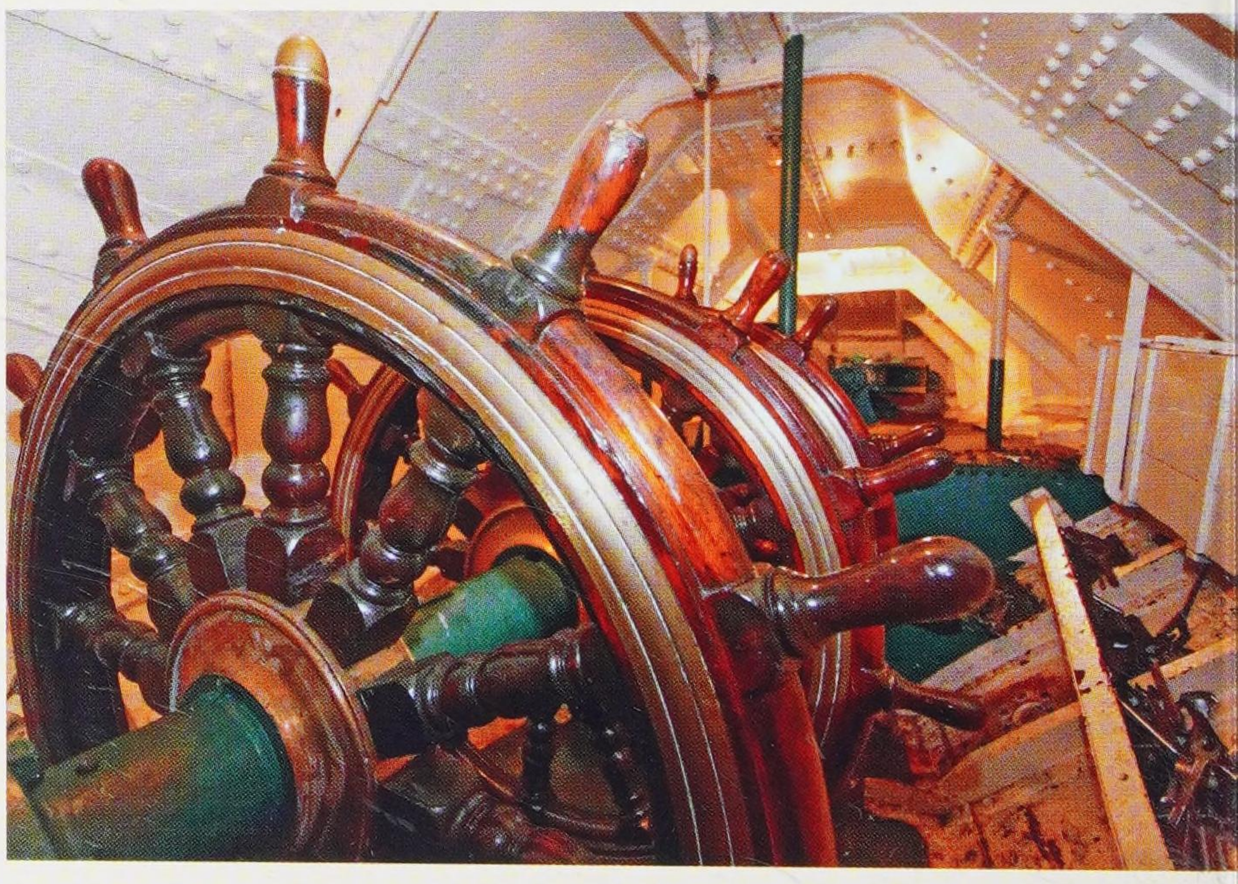
To reach her top speed of 30 knots (55.5km/h), *Caroline* had eight small-tube boilers, supplying Parsons Impulse Reaction turbines on four shafts. Geared cruising turbines on the two outer shafts improved fuel economy when the ship was not in action.

A turbine is a machine that captures energy from a moving liquid or a gas – in *Caroline*'s case, steam – so it can be put to use. (The simplest form of turbine is a windmill.) Each of *Caroline*'s turbines was a single unit, powered by a pair of boilers and turning one propeller shaft. Oil fuel was burned in furnaces, heating up water in the boilers to generate steam, which was then forced through the turbine blades, making them turn. The blades turned *Caroline*'s propellers and drove the ship through the water.

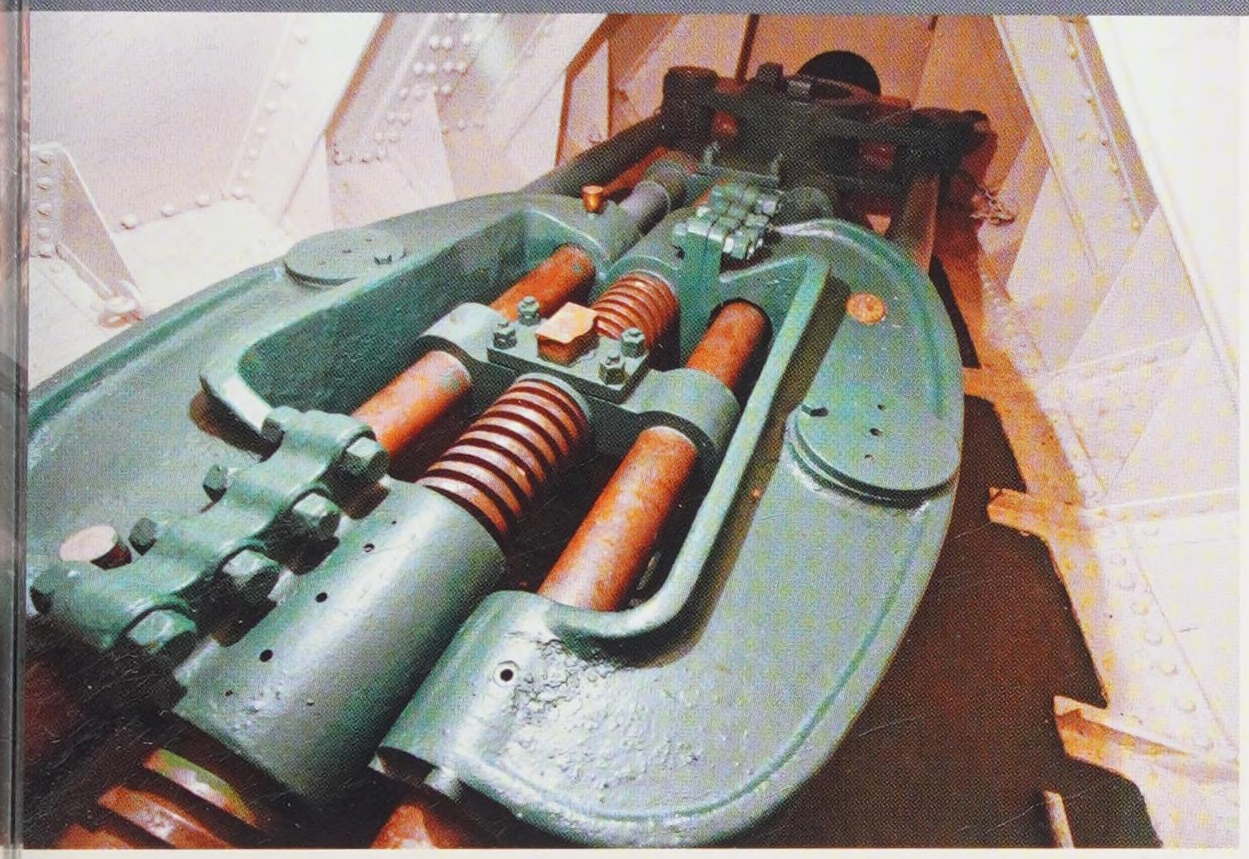
Caroline's turbines are amongst the earliest surviving in the world today. They could generate 40,000 shaft horsepower, or 29,419 kilowatts. In 2015 a Formula 1 racing car could generate 600 horsepower.



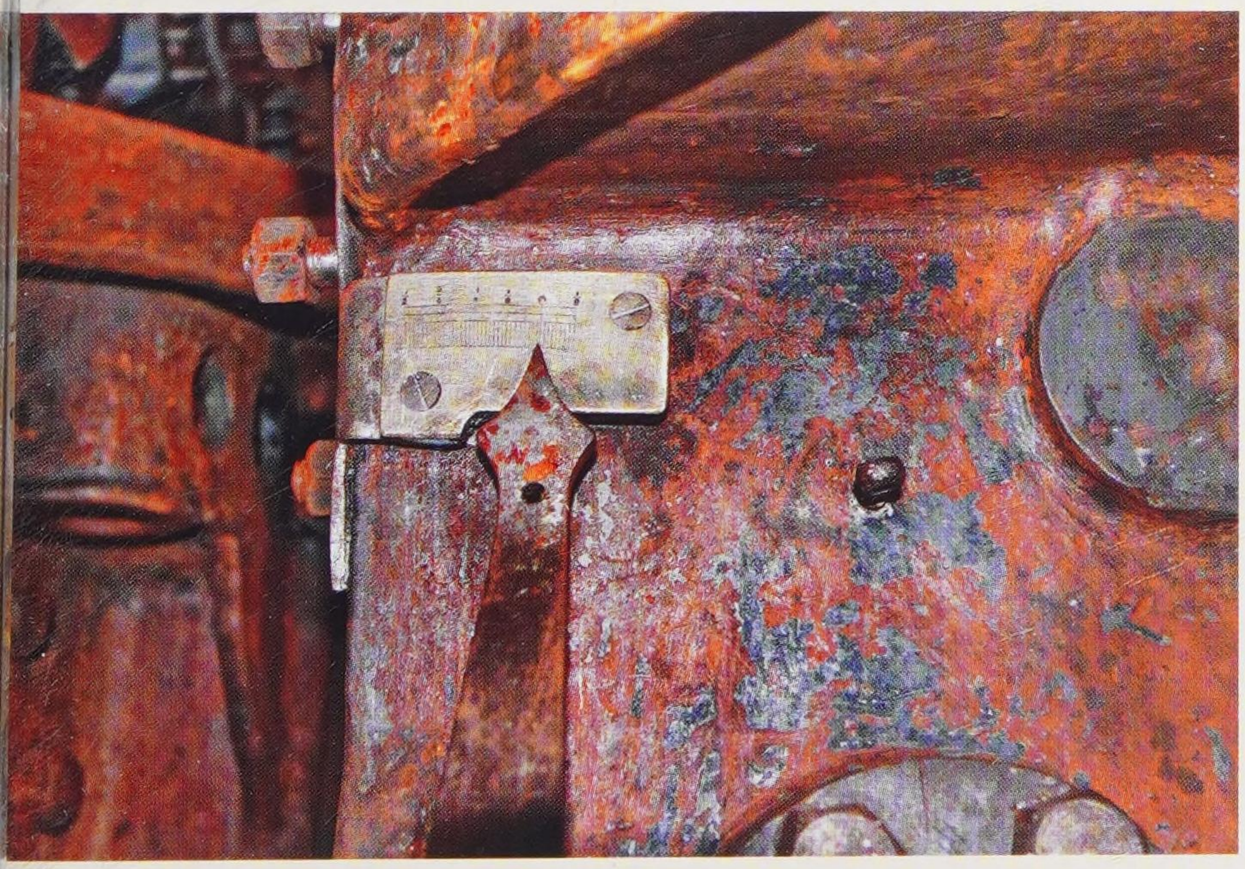
The forward end of the Parsons turbine on the starboard side of No.1 Engine Room, showing steam inlets and central propeller shaft.



The Tiller Flat, or Emergency Steering Position.



Rudder mechanism.



A torque gauge on one of *Caroline*'s cruising turbines.

Charles Parsons patented the first workable turbine in 1884.

Ten years later, he built *Turbinia*, a 44-ton turbine-powered yacht, and demonstrated his invention at Queen Victoria's 1897 Diamond Jubilee. *Turbinia* tore through the serried ranks of warships at 34 knots, evading all efforts to catch her.

The Admiralty allowed Parsons to equip two new destroyers with turbines at his own expense, and the new ships stunned a sceptical audience by achieving 37 knots in a speed trial. In 1902 the Admiralty equipped the cruiser HMS *Amethyst* with turbines, and her performance against her four otherwise identical sister ships led to an Admiralty recommendation in 1905 that all future warships be equipped with turbines.

The newly appointed, reforming First Sea Lord Admiral Sir John 'Jackie' Fisher combined turbines with his revolutionary idea for an all-big-gun battleship and built HMS *Dreadnought* in 1906. From then, most new warships had turbine engines.

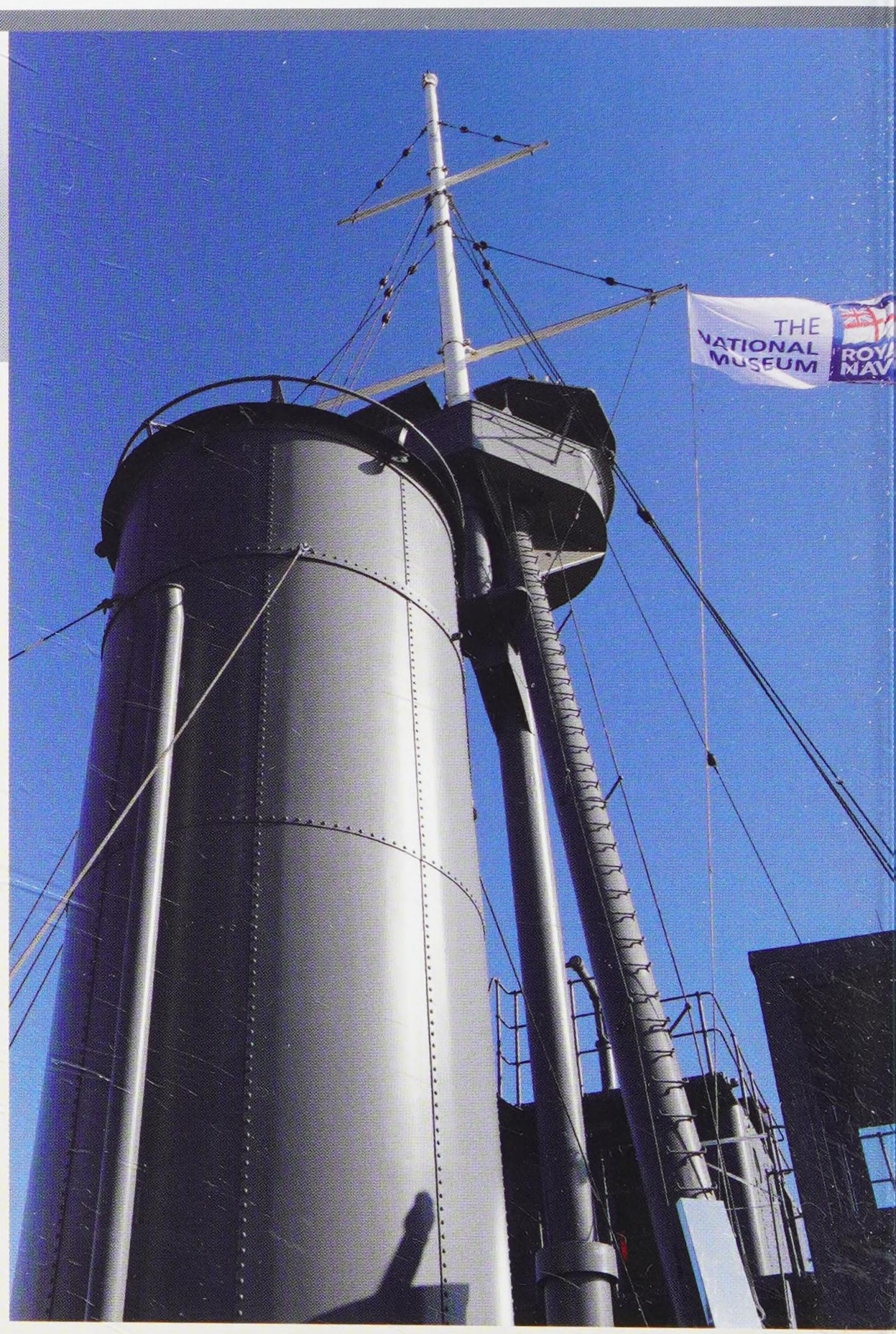
Turbines did not just generate higher speeds; they were lighter and more compact than earlier engines, and with less vibration, turbine-powered ships were more stable gun platforms, increasing the accuracy and range of the guns.

NAVIGATING AND COMMUNICATING

Caroline's first Navigating Officer, Lieutenant Edward Geake, and his team had none of the sophisticated equipment enjoyed by modern sailors.

Caroline's navigators relied on traditional methods. At sea, the nerve centre was the Navigating Bridge and its associated Chart Room, linked to the Engine Room by a telegraph. Here, the watchkeeping officers gathered information taken from the magnetic compass, landmarks ashore and, if necessary, star sightings to plot the ship's location on a paper chart. Captain Crooke had a small sea cabin next door and could be instantly on hand if there was a problem.

The Fore Upper Bridge was on top of the Bridge structure, which was made of brass and other non-magnetic substances to prevent distortion of the compass readings. The Royal Navy had global responsibilities, and *Caroline* carried a complete set of Admiralty charts for most of the world. Most were stored in the Chart Room with the ship's chronometer, essential for determining longitude. The chronometer had to be kept in a stable space with a consistent temperature and humidity. Chronometer readings were taken once a day.



Caroline's Bridge and tripod mast, installed as part of her 1917 refit.

Sonar was another modern navigational aid that came too late for *Caroline*. Instead, her navigators relied on charts for information about water depth.

In shallow or poorly charted waters they used the ancient technique known as 'swinging the lead', which involved throwing out a weighted line marked with depths in fathoms at regular intervals.

Caroline had the latest wireless set. Although it had a relatively limited range compared to today's technology, Captain Crooke could use Britain's worldwide network of wireless and telegraph stations to communicate directly with the Admiralty in London. It could take days to relay a message, but this was still a huge improvement on Nelson's day, when messages were sent by ship and could take months.

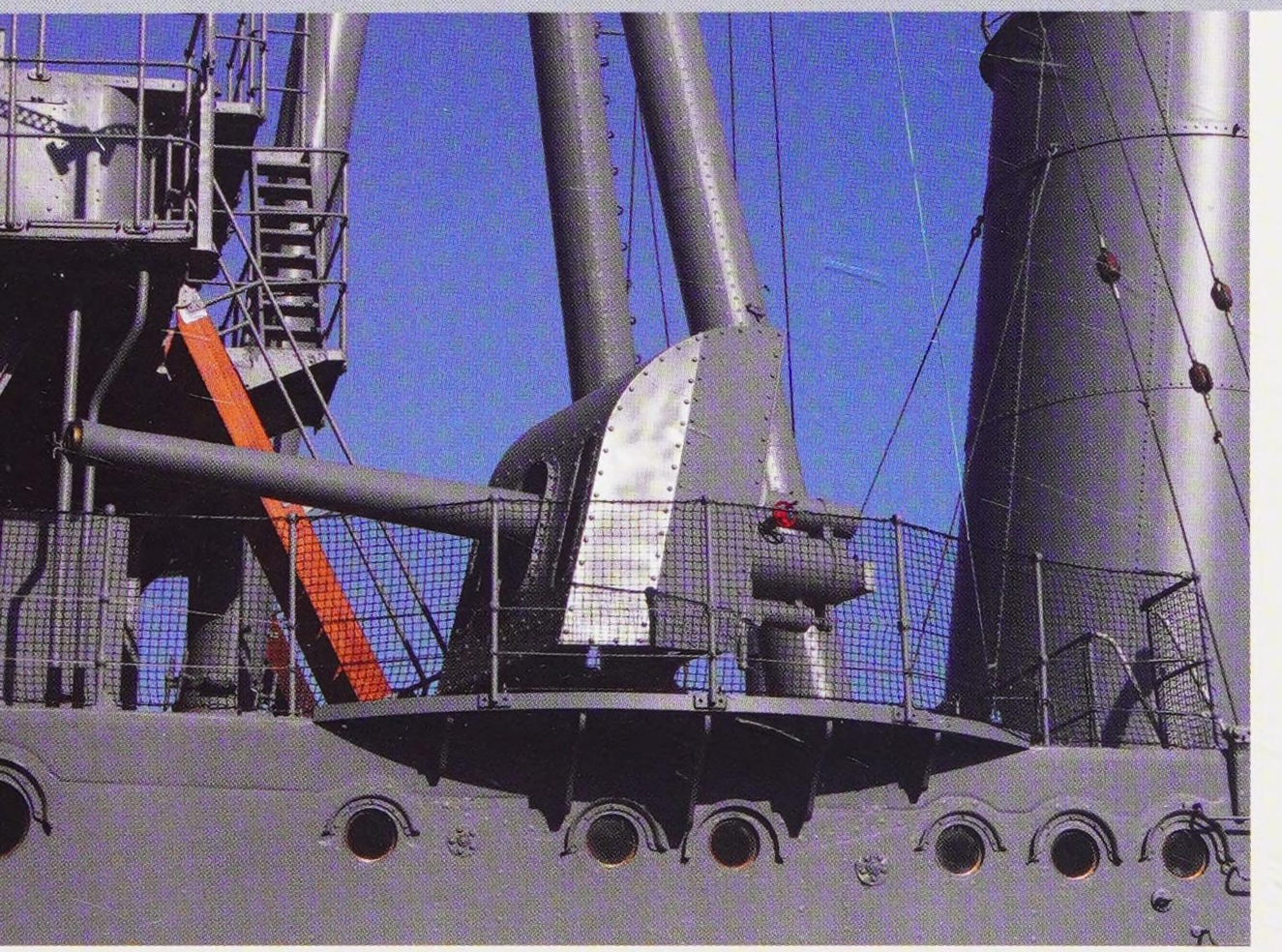
Crooke had a range of visual signalling methods for contacting another ship in company, including signal flags, semaphore and signal lamps. Inside *Caroline*, a network of voice pipes and telephones allowed the ship's company to talk between compartments.

Above right: The Auxiliary Wireless Office, showing footings for the original soundproof silent cabinet and wire instrument safety cage.

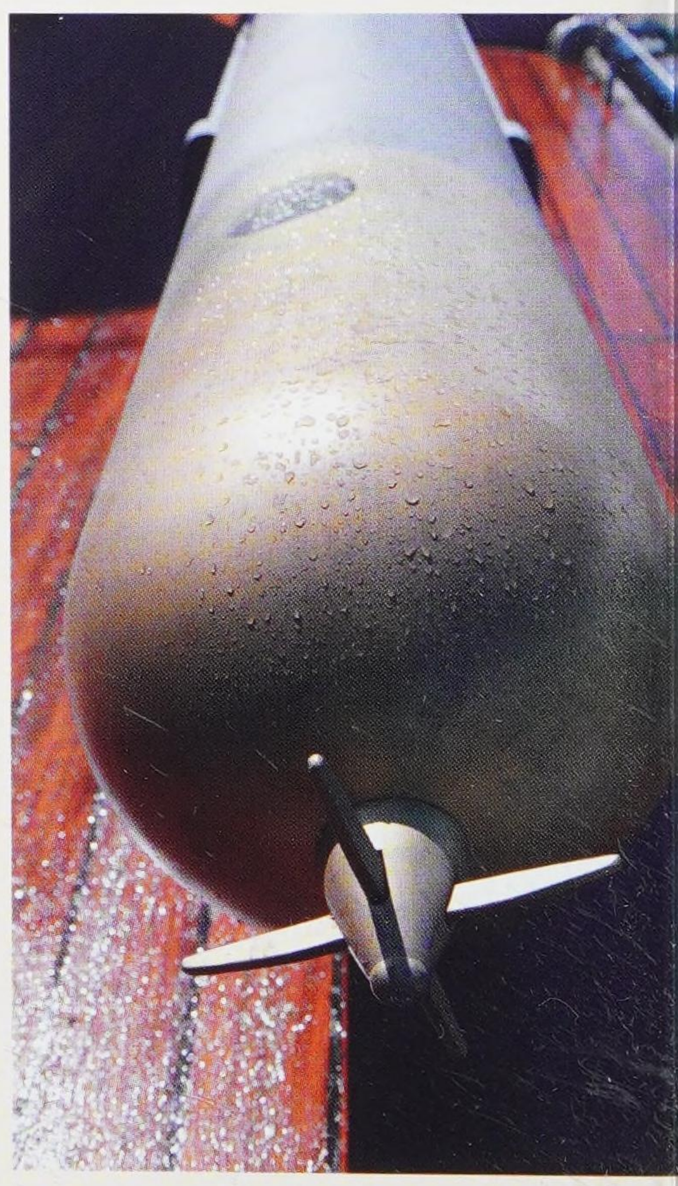
Below right: Boy Telegraphist William Crick (middle row, far right) and *Caroline*'s Wireless Telegraphy team, 1915–16.

FIGHTING HMS *CAROLINE*

Caroline's purpose was to scout ahead of the fleet, protect it from torpedo-carrying enemy ships, and make her own torpedo attacks in return. Her objective was to hit hard and get out of trouble fast.



Caroline's ammunition consisted of high-explosive shells, which exploded when they hit the target, and separate cordite propellant charges, which provided the energy needed to get them there. These were stored far below in the ship's Shell Rooms and Magazines. They were brought up to the Main Deck using mechanical hoists, but had to be manhandled from there up to the labouring gun crews on the Upper Deck.



Left: A replica 4-inch (102mm) Mk V Gun.

Right: A replica 21-inch Mk II torpedo. *Caroline* could carry up to 12 of these, which were fired from pairs of deck-mounted torpedo tubes.

Caroline's 'punch' came from her guns: eight 4-inch (102mm); four mounted on the forecastle (the raised section at the front of the ship); and two further aft and lower down on each side of the 'waist'. Greater firepower was provided by two 6-inch (152mm) guns aft, with one gun on the Quarterdeck and the other set on top of the Captain's cabin at a higher level. The quick-firing 4-inch could disable enemy torpedo craft, whilst the 6-inch could fend off pursuing enemy cruisers.

From 1917–18 *Caroline*'s armament was upgraded so she could engage new, heavily armed German torpedo boats and better defend herself against enemy aircraft.

A midships 6-inch Magazine, with revolving flash tight scuttle, designed after Jutland to allow cordite charges to be handled quickly but safely.

Working on a torpedo aboard HMS *Caroline*.

Caroline's weapons were divided into four pairs of 4-inch guns, the 6-inch guns, and the two torpedo tubes. A light cruiser was meant to engage multiple targets independently, unlike a battleship, which was designed to deliver regular broadsides at one opponent.

Caroline's gunfire was controlled centrally. Observers used rangefinders on the Bridge and amidships to obtain the distance and direction to a target. They passed the information on to the team operating *Caroline*'s Vickers Mark III Fire Control System (a mechanical computer), deep inside the ship. This team then calculated a 'firing solution' of range and 'deflection' – offsetting the speed of a moving target by firing ahead of it. The solution was communicated to the gun crews, who fired when a gong was sounded.

The two forward 4-inch guns were removed in early 1917 and a 6-inch fitted in their place, with the two remaining 4-inch guns on the forecastle being replaced with 3-inch anti-aircraft guns on high-angle mounts in October 1918.

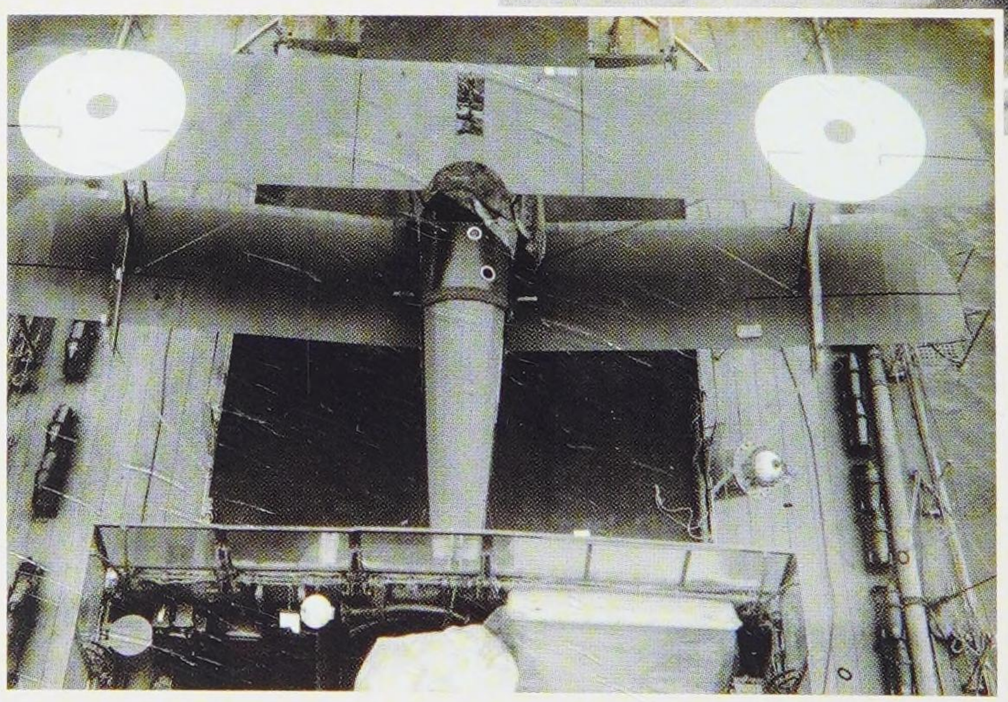
DEFENDING HMS *CAROLINE*

To protect her vital parts against enemy gunfire, *Caroline* was fitted with an armoured belt, starting at the bow and ending just aft of her screw propellers.

From about two feet (60cm) below the waterline, it rises to around halfway up the side of the ship and is between one and three inches (25–76mm) thick. *Caroline* also has around one inch (25mm) of deck armour above her amidships section. This thick steel plate protected the cruiser's Magazines and Shell Rooms, engines, boilers and steering gear, all of which were essential if she was to survive and keep fighting.

Inside, *Caroline* was divided into watertight compartments, which could be sealed off by closing watertight doors. If one of these compartments was damaged and filled with water, the flooding would not spread throughout the ship. These compartments could also be deliberately flooded to offset damage on the other side and keep the ship stable, a process known as 'counter-flooding'.

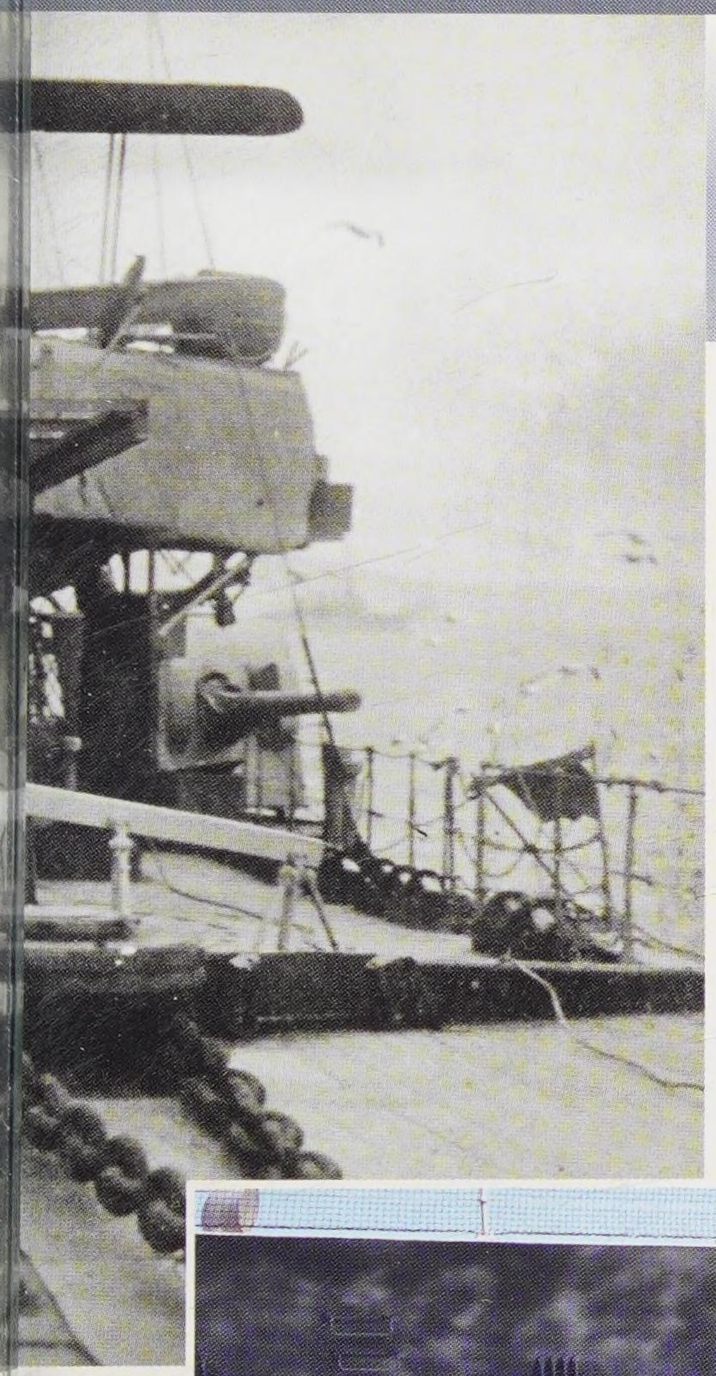
Above: The Flying-off Platform on *Caroline*'s forecastle, complete with Sopwith Camel and a wary-looking crew.



Top-down view of *Caroline*'s open Bridge and the Sopwith Camel.

Opposite left: *Caroline*'s starboard side armoured belt.

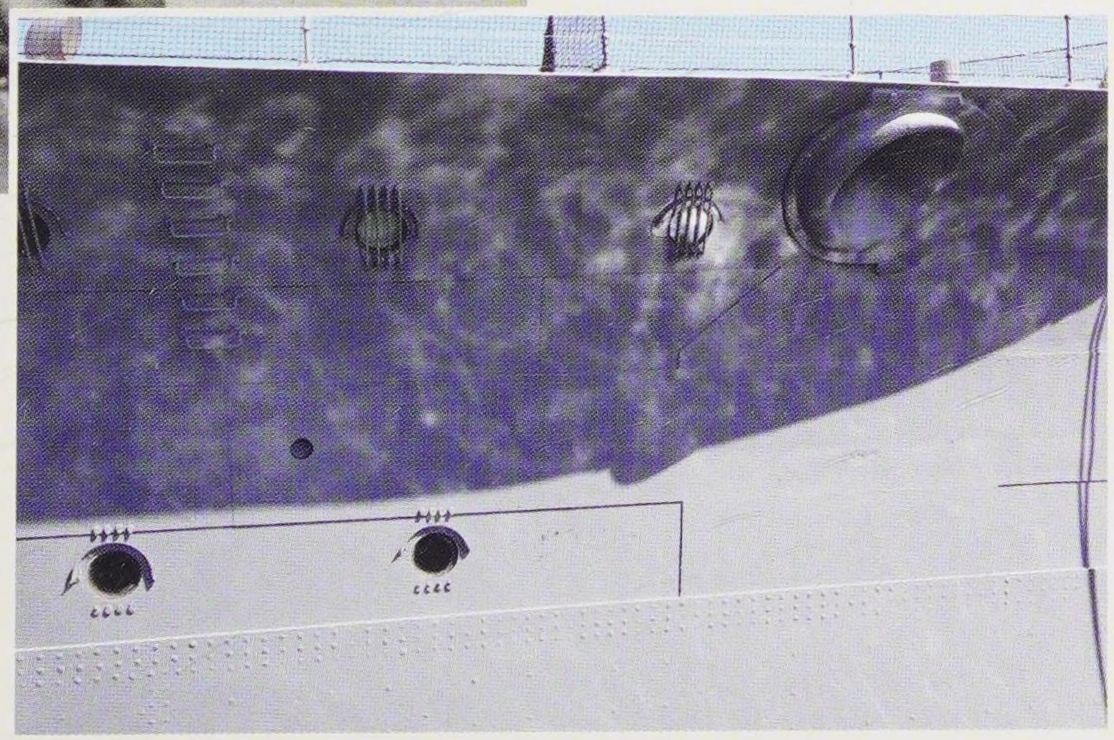
Opposite right: Detail of *Caroline*'s armoured belt.

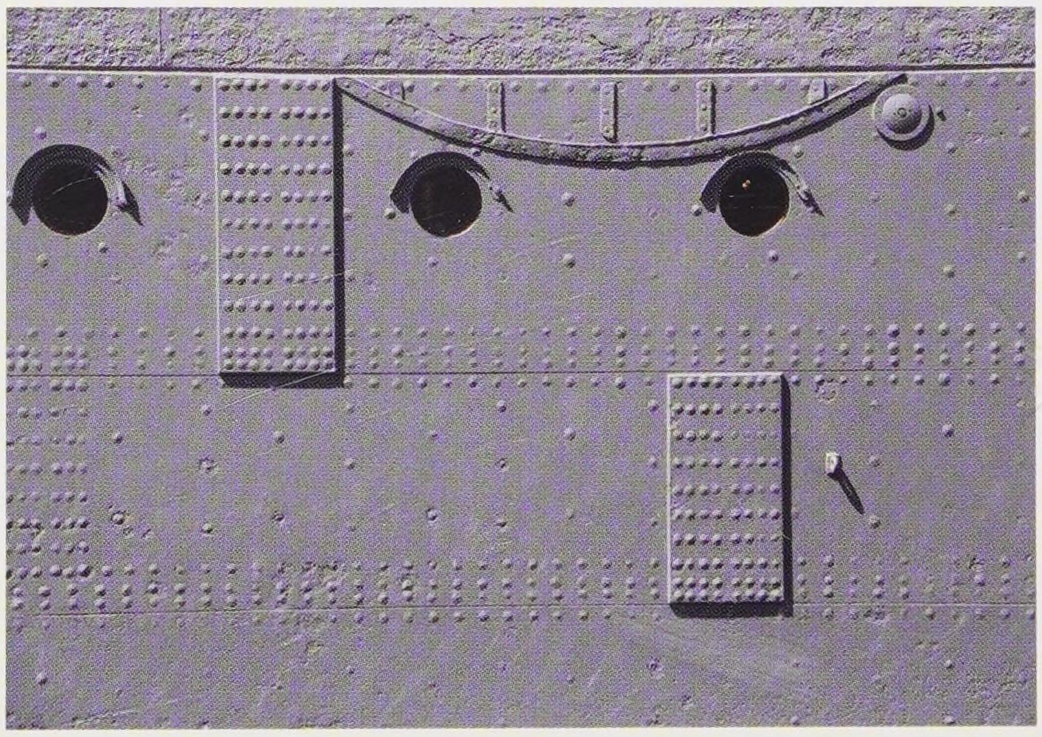


In 1917 *Caroline* was given an additional defence: a Flying-off Platform for a Sopwith Camel aircraft.

It was built over the forward 6-inch gun on *Caroline*'s forecastle, immediately in front of the Bridge. If the cruiser steamed into the wind at full speed, and the aircraft ran its engine at full power, there was enough lift for the Camel to take off along this incredibly short runway. There was nowhere to land back on the ship, so once the pilot had carried out his mission he had to either ditch in the sea or make for the mainland. Nevertheless, in a time long before radar, the aircraft allowed *Caroline* to see far over the horizon. Captain Leggett was not a fan, however, as the aircraft covered his ship's immaculate paintwork in oil.

The Camel could also shoot down prying enemy aircraft or Zeppelin airships, but *Caroline*'s main anti-aircraft defence came from her high-angle guns: at first a single Hotchkiss 6-pounder (57mm), later upgraded to a pair of 3-inch (76.2mm) as the air threat became more serious later in the war.





INTO RESERVE

Caroline was saved from the breaker's yard by an unlikely rescuer – Sir James Craig, Prime Minister of Northern Ireland.

Captain the Marquis of Dufferin and Ava.

Craig wanted the British Government to set up a Royal Naval Volunteer Reserve (RNVR) unit in Belfast. At that time each RNVR unit was given a surplus-to-requirements warship, and the Admiralty offered HMS *Caroline*.

Caroline was towed out of Portsmouth on 2 February 1924, and taken into the Harland and Wolff shipyard in Belfast to be converted into a drill ship. Her boilers were removed and the vacant space was converted into workshops, classrooms and offices. The Sick Bay, Main Galley and officers' accommodation, along with the Bridge, masts and funnels, were left undisturbed, but a steel Drill Shed was constructed on the Upper Deck in which the reservists could train and parade in all weathers.

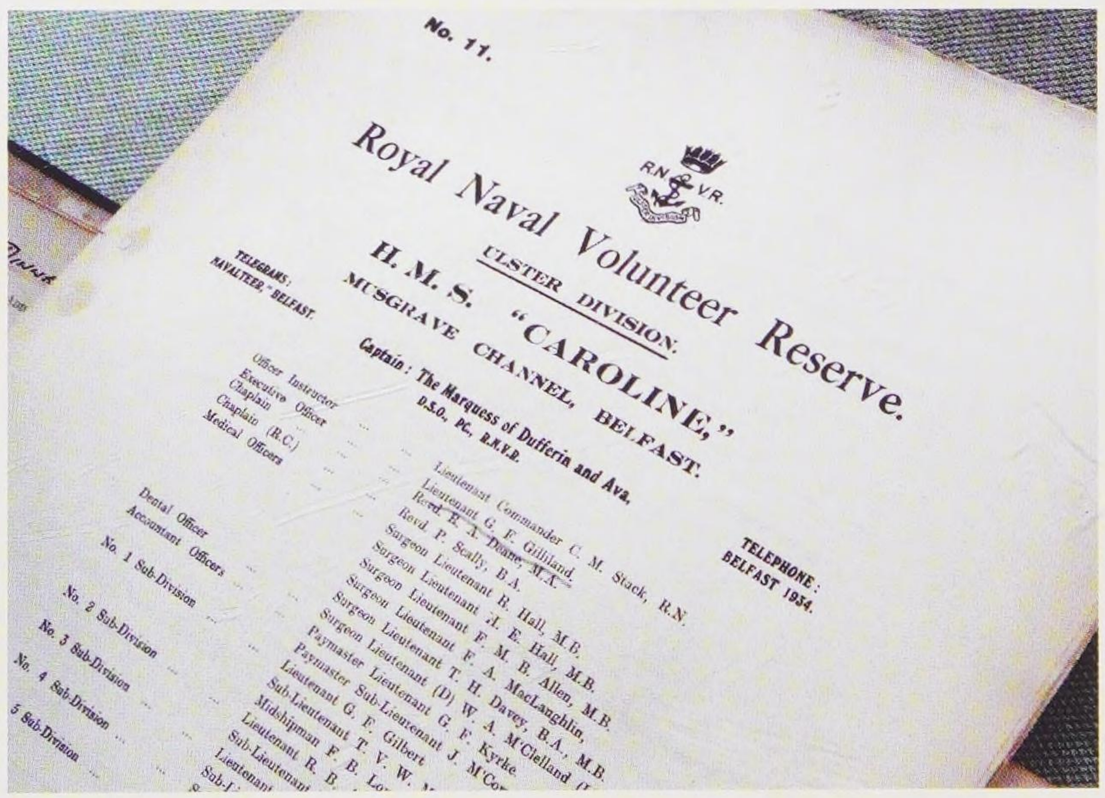
In September 1924 a recruiting meeting was held at the City Hall and Captain the Marquis of Dufferin and Ava – Craig's cousin – was appointed Commanding Officer of the new Ulster Division RNVR.

Caroline in drill ship configuration.

Recruitment was described as brisk, although in reality three years later the unit had still not reached its target strength of 500 men.

RNVR volunteers were given kit, free travel warrants and an annual bounty. They were aged between 18 and 28, and had to choose one of 13 specialisations, from seaman to plumber. They were required to serve for four years and attend a minimum of 40 training sessions (drills) in the first year, dropping to 24 thereafter. They also spent 42 days in a sea-going warship. The Ulster Division carried out ceremonial duties, public displays, and held social functions, embedding itself into Belfast life.

In 1930 the Marquis of Dufferin and Ava was killed in an air crash, but otherwise the RNVR's rhythm of life continued undisturbed until 31 July 1939, when, as war with Nazi Germany loomed, the reservists started to leave for their war postings. By 3 September the Ulster Division RNVR had ceased to exist.



No. 11.

Royal Naval Volunteer Reserve.

RN VR

ULSTER DIVISION.

H. M. S. "CAROLINE,"

MUSGRAVE CHANNEL, BELFAST.

TELEGRAMS: NAVALTEER - BELFAST.

TELEPHONE: BELFAST 1934.

Captain: The Marquess of Dufferin and Ava, D.S.O., Pc., R.N.V.R.

Officer Instructor — Lieutenant Commander C. M. Stack, R.N.
Executive Officer — Lieutenant G. F. Gilliland.
Chaplain — Revd. E. A. Deane, M.A.
Chaplain (R.C.) — Revd. P. Scally, B.A.
Medical Officers — Surgeon Lieutenant R. Hall, M.B.
Surgeon Lieutenant H. E. Hall, M.B.
Surgeon Lieutenant F. M. B. Allen, M.B.
Surgeon Lieutenant F. A. MacLaughlin, M.B.
Surgeon Lieutenant T. H. Davey, B.A., M.B.
Surgeon Lieutenant (D) W. A. M'Clelland
Paymaster Sub-Lieutenant G. F. Kyrke.
Lieutenant G. F. Gilbert.
Sub-Lieutenant T. V. W.
Midshipman F. B.
Lieutenant R. B.
Sub-Lieutenant
Lieutenant
Sub-Li

Dental Officer
Accountant Officers
No. 1 Sub-Division
No. 2 Sub-Division
No. 3 Sub-Division
No. 4 Sub-Division
5 Sub-Division

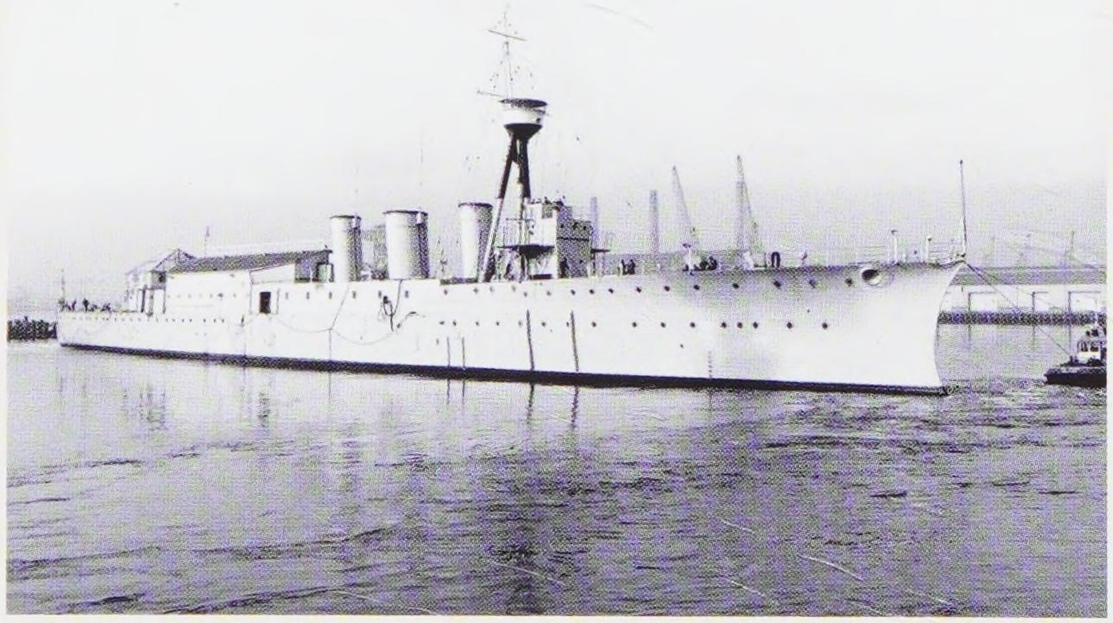
Daily orders from the 1920s.

BATTLE OF THE ATLANTIC

On the outbreak of war HMS *Caroline* was moved from her berth in the Musgrave Channel to the Milewater Basin; here she acted as the base depot ship for trawlers, drifters and other unglamorous but important small craft.

Meanwhile, the Royal Navy had been forced to rethink its entire strategy for what were known as the 'Western Approaches', a key area of the Atlantic Ocean lying to the west of the British Isles. This was the main gateway for the merchant ships on which Britain depended, for the Royal Navy had lost its bases in the south following Irish independence. Belfast's defences and facilities were upgraded and a Naval Control Service office was established to regulate merchant shipping.

As far as the Royal Navy was concerned, *Caroline* was an active ship again, commanded by an officer recalled from the retired list – 57-year-old Captain Ernest du Boulay – and flying the flag of Rear Admiral Edward King, a Jutland veteran and the Flag Officer in Charge, Belfast. However, it was not until the fall of France in June 1940 that the importance of Belfast, and *Caroline*, really became apparent.



A forlorn-looking *Caroline* with her waists (open decks along the side) plated over, extra office accommodation aft and most of her exterior fittings removed.

King George VI inspects *Caroline*'s ship's company, 1942.

With German U-boats based in southern France and marauding in St George's Channel – the southern entrance to the Irish Sea – the Admiralty decided to divert all Atlantic merchant shipping around the northern coast of Ireland.

Their escorting warships were to operate from Northern Ireland. *Caroline* became the headquarters for Belfast Naval Base, home of the minesweeping and antisubmarine trawlers that were playing a vital role in the gruelling Battle of the Atlantic. From 15 ships in July 1940, *Caroline*'s flock increased steadily to 41 trawlers six weeks later and 70 by the end of the year. The enemy certainly noticed the city's growing importance, and Belfast was heavily bombed in April and May 1941, one huge landmine falling near *Caroline*'s bow.

Caroline provided signal and cypher facilities to her trawlers and a school for Merchant Navy DEMS (Defensively Equipped Merchant Ships) Gunners. The base kept growing, and eventually several thousand naval ratings proudly wore the name *Caroline* on their cap ribbons. Her officers took up three pages in the *Navy List*, the gazetteer of all Royal Navy commissioned officers.

Queen Elizabeth talks to Chief Officer E.A. Rogers, senior Wren in Northern Ireland, 1942.

The base soon outgrew the ship, spreading out into buildings all over the city. Rear Admiral King and his staff were based in Belfast Custom House until November 1941, when they moved into Belfast Castle.

In March 1943 the base expanded again, to relieve pressure on Derry/Londonderry, Greenock and Liverpool. The minesweeping trawlers left and were replaced by more formidable warships: escort groups of destroyers, corvettes and frigates, controlled directly from a new office suite built on to *Caroline*'s aft superstructure. By 1944 there were six groups in Belfast, each consisting of new American-built destroyer escorts, designated Captain-class frigates by the British.

Caroline was a lynchpin of the Battle of the Atlantic – the Second World War's longest battle, which began on the first day and did not end until the last. She remained a commissioned base ship until she was paid off on 31 January 1946. On 1 October that year the veteran cruiser was reinstated as a drill ship for the newly reinstated RNVR Ulster Division.

Officers of HMS *Tyler*, part of *Caroline*'s flock of American-built Captain-class frigates, in Belfast, 1944–45.

The Captain-class frigate HMS *Duckworth*, a senior officer's ship of the 3rd Escort Group and part of *Caroline*'s flock.

The River-class frigate HMS *Swale* in heavy seas.

WRNS

Many of those serving in Belfast and aboard HMS *Caroline* during the Second World War were women: 'Wrens' from the Women's Royal Naval Service.

An unofficial flag detailing the successes of the Belfast Escort Forces from July 1943 to May 1945, including U-boats sunk and the various Escort Groups stationed there.

The Admiralty reformed the WRNS just before the war, originally recruiting volunteers into locally based units attached to naval ports. Conscription was not introduced in Northern Ireland, to avoid alienating the nationalist community, and so the WRNS remained an all-volunteer force, with new recruits indicating whether they were only willing to serve at home (a group amusingly dubbed 'Immobile Wrens' by Admiralty officialdom) or were prepared to go overseas. Fifty women were recruited in Belfast in the first year of the war.

Although Wrens did not serve in warships, they contributed to victory in innumerable ways, as Radio Operators, Meteorologists, and Cypher Officers. They also serviced and maintained small craft, crewed harbour patrol boats and flew transport aircraft. The service peaked at 75,000 members in 1944, and 100 Wrens died on active service.

RETURN TO RNVR

The RNVR had proved its value during the war, providing most of the officers and ships' companies for the kind of small, hard-worked warships that had won the Battle of the Atlantic.

Caroline returned to the Ulster Division under the command of Captain Courtney Shillington, who had been her Executive Officer before leaving for war service. Recruitment began again in June 1947 but it was not easy, presumably because most of the wartime generation had experienced quite enough of service life. Only 25 officers and 30 ratings who had served pre-war joined back up, and the Ulster Division never achieved its target complement of 500. The target was revised down to 250 in the early 1950s, but the total never exceeded 180 men.

When the Ulster Division was reformed, there were concerns that *Caroline* was too old and worn out to serve. Alternative ships were considered but none were wholly suitable, and given the affection for the venerable 'Carry' in Belfast, the Admiralty decided to extend her life again.

Captain (later Commodore) Courtney Shillington, the first post-war Commanding Officer of the Ulster Division.

REFIT

In 1951 *Caroline* was modernised and completely re-equipped, once again by Harland and Wolff.

She was given workshops for training shipwrights and joiners, and for dismantling torpedoes and Engine Room machinery. The latest radar sets arrived, and classrooms were set up for navigation and even touch-typing. Many of the technical workshops went into the cavernous spaces once occupied by her Boiler Rooms, nicknamed 'The Cathedral Flat'.

The RNVR Wardroom fireplace.

The troublesome funnels.

'The Admiralty have done more for us in one year than in any 20 before the war!'

Caroline *RNVR officer, 1951*

The old cruiser nearly lost her badly corroded but distinctive funnels, but the formidable Captain Shillington fought hard for their replacement and the Admiralty eventually bowed before his 'massive presence and sulphurous turn of phrase'. The Division also acquired its first seagoing ship for sea training, the Second World War minesweeper MMS *1034*, later renamed HMS *Kilmorey*. Sadly, *Kilmorey* missed the 1953 Coronation Review, when most of the Royal Navy assembled in Portsmouth, because her hull turned out to be rotten.

The First Sea Lord, Admiral Sir Rhoderick McGrigor (another Jutland veteran), visited *Caroline* after her refit, as she was beginning the second phase of her long and active peacetime life.

GUNNERY SCHOOL

After the Second World War, the Admiralty decided that each RNVR Division should specialise in a particular area. The Ulster Division's area was to be gunnery.

A shed alongside *Caroline* was fitted out as a Gunnery School with a range of training weapons. Another building housed a 'Dome' trainer, a system developed during the war to train anti-aircraft Gunners.

RNVR recruitment became more professionalised in the 1950s. Officers and ratings had to pass tests before being admitted, and officers had to spend 12 months on the Lower Deck before being commissioned. In 1952 the men were joined by a new Women's RNVR unit.

Above: Gun hatches, fitted for training, in the side of the Drill Hall.

Left: The Women's Royal Naval Reserve officer's accommodation.

Sea training in *Kilmorey* became a regular feature of RNVR life, with entire crews of reservists embarking for weekend cruises in Belfast Lough and out into the Irish Sea. They would steam to destinations as far afield as Oban, the Clyde and even, in 1950, Denmark, whilst soaking up hours of practical experience in coastal navigation and manoeuvring.

MINESWEEPING SCHOOL

In 1954 the Ulster Division was reorganised yet again.

The Royal Navy was shrinking and becoming focussed more exclusively on Cold War commitments to NATO and a possible 'Third World War' against the Soviet Union. The Admiralty had decided to give the Reserve Forces a single wartime role – minesweeping – and reserve units were formed into full ships' companies in preparation. The original *Kilmorey* was replaced by another Second World War minesweeper and then finally by a brand-new Ton-class minesweeper in 1956. This ship and her successors allowed the Ulster Division reservists to travel much further, and they regularly exercised in the Mediterranean.

In 1958 the old RNVR, traditionally formed of weekend sailors and other keen amateurs, merged with the Royal Naval Reserve of professional merchant seamen to form a single Royal Naval Reserve (RNR). Despite this, the Ulster Division continued to decline in numbers, falling below 100 in 1968.

Right: *Caroline*'s WRNVRs parade through Belfast.

Far right: *Caroline* in the Milewater Basin in 1958, with her resident minesweeper HMS *Kilmorey* alongside.

THE TROUBLES

Perhaps inevitably, *Caroline* was occasionally caught up in the terrorist attacks during Northern Ireland's 'Troubles'.

As a Royal Navy vessel, *Caroline* was targeted by the IRA, who wanted Northern Ireland to be part of a united Ireland. The first attack took place as early as 1956, when a 'heavily charged time-bomb' was found near the Reserve's Gunnery School on the dockside next to the ship.

The Troubles escalated in the late 1960s, and in September 1971 shots were fired at the ship by a sniper, leaving a hole in a leg of the tripod mast. The worst attack on *Caroline* was in August 1972, however, when a bomb placed in a shed next to the Gunnery School exploded, badly damaging the school and causing superficial damage to *Caroline*'s superstructure. Fortunately there were no casualties on either occasion.

The Troubles had an inevitable effect on RNR recruitment. The Ulster Division RNR tried to recruit from all sections of the community, even throughout the Troubles. Nevertheless, some members from areas where close association with the British armed forces was seen as unacceptable had to resign, and crossing the city to attend training nights became more dangerous.

'HMS *Caroline* is quite simply one of the world's most significant historic fighting ships. She pre-dates the partition of Ireland and both Irish and British sailors fought together on her in the First World War. To conserve the ship and open it to the public as a shared space, museum and cultural hub in Belfast is hugely significant to the people of all Ireland.'

Professor Dominic Tweddle, Director General of NMRN

SAVING *CAROLINE*

Caroline's fabric remained remarkably well-preserved, despite her long active service life, thanks to a methodical maintenance regime.

This ensured that HMS *Caroline* remained a viable base for the Ulster Division, at a time when other old drill ships were deteriorating and eventually being scrapped. Periodic calls were made for the last survivor of Jutland to be restored and opened to the public as a memorial to those who built and served in the First World War's Grand Fleet. However, these efforts had to overcome the problem of finding a new home for the RNVR, estimated at £1 million in the early 1990s when the Imperial War Museum tried to acquire and relocate *Caroline*. The project was abandoned.

The Ulster Division finally moved ashore to Thiepval Barracks, recommissioned as HMS *Hibernia*, in December 2009. HMS *Caroline* remained a commissioned Royal Navy unit until 31 March 2011, when her ensign was laid up in St Anne's Cathedral, Belfast.

Above right: Conservation work in progress in the Upper Deck Seamen's Mess.

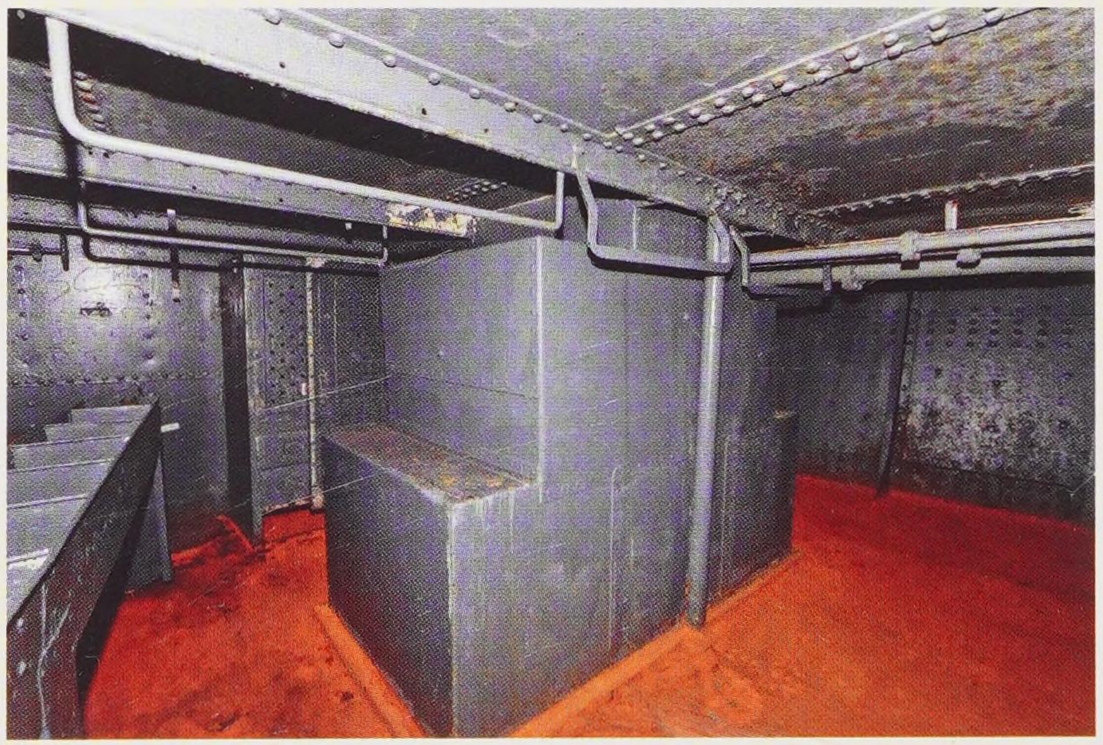
Below right: Traces of one of *Caroline*'s torpedo tube mounts.

On 13 April 2011 the National Museum of the Royal Navy assumed day-to-day responsibility for the ship.

Caroline had been the longest-serving warship in the Royal Navy after HMS *Victory*, and the ship reflects many different phases of her career. She is the maritime equivalent of a medieval castle; an archaeological site with many 'layers' of history, from her 1914 Shell Rooms and Magazines to her 1924 RNVR Drill Shed and her 1970s catering spaces. When Heritage Lottery Fund, National Heritage Memorial Fund and Department of Enterprise, Trade and Investment support made conservation possible, the team faced hard choices. Which parts of the ship should be restored and which left alone? Should original features be compromised to allow public access? Should the ship be repainted?

After exhaustive research, the approach that has been taken balances preservation and reconstruction. Some interior spaces have been preserved and stabilised, like the Engine Rooms, where *Caroline*'s turbines can be seen exactly as they were found, although the conservation team have spent thousands of hours expertly cleaning every exposed surface by hand. Other than a Viewing Platform, everything seen in this space is original.

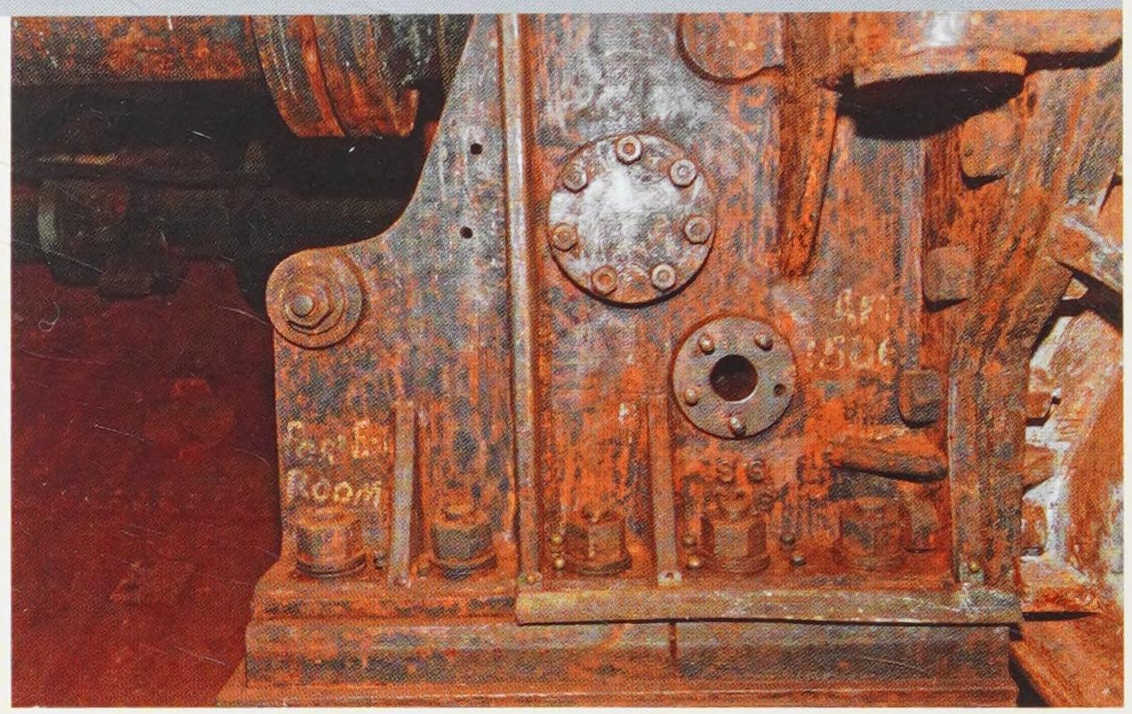
Original deck timbers are revealed on the Compass Platform.



Archaeological layers: the 1914 Carpenter's Store with the Potato Room (centre) added in 1919.

In other areas, notably on the Upper Deck forward of the after funnel, *Caroline* has been restored to her 1916 appearance.

Replica guns have been installed to recreate her appearance when she was a fighting ship and help the visitor to understand her role in the First World War. Internal spaces like the Captain's cabin, Crew's Mess and Bridge now give an impression of how they looked in 1916, allowing for appreciation of how the 'Carries' lived and worked. In other areas, like the Tiller Flat, the difficult decision was made to keep them off the main visitor route, because safe public access would require too many fundamental changes to the ship.



This engine mounting was intended for another ship. The job number painted in white is 1586, whereas *Caroline*'s job number was 1585.

At NMRN we are fully aware of our responsibility for this extraordinary survivor; this veteran of two world wars and a turbulent century. All the work we have carried out as part of a conservation-led programme has been driven by the desire to retain as much of the original ship as possible. We hope that this will help her to survive and thrive in her new role, and delight her visitors for another hundred years.

Original floor tiles emerge in the Wardroom Pantry.

Acknowledgements

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